CITY OF REDMOND
RESOLUTION NO. 1421

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF REDMOND, WASHINGTON, ADOPTING THE UPDATED KING COUNTY REGIONAL HAZARD MITIGATION PLAN, VOLUME 1 AND THE CITY OF REDMOND ANNEX TO THE PLAN, AS APPROVED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 requires local government agencies to develop and submit an All-Hazards Mitigation Plan in order to receive future Hazard Mitigation Grant Program Funds; and

WHEREAS, the City has knowledge and experience that natural and man-made hazard events pose threats to lives and cause damages to property within the City of Redmond; and

WHEREAS, the City supports disaster mitigation efforts and regional disaster planning; and

WHEREAS, staff working with technical experts and the King County Office of Emergency Management have used available technologies, information, and historical documents to conduct a comprehensive risk reduction analysis process resulting in the preparation of the King County Regional Hazard Mitigation Plan (KCRHMP) and the City of Redmond Hazard Mitigation Plan (HMP) Update Annex; and

WHEREAS, the KCRHMP formalizes the County and City's comprehensive efforts to make the region safer through preventing damage in the built environment; and

WHEREAS, the Redmond HMP Update Annex builds on the objectives and actions established in the 2004 and 2009 Redmond HMPs and the City of Redmond's Comprehensive Plan; and

WHEREAS, the Redmond Update Annex has been reviewed by all relevant City departments; and

WHEREAS, the KCRHMP, including the Redmond Annex, has been reviewed by Washington State Department of Emergency Management and the Federal Emergency Management Agency Region X; and

WHEREAS, the KCRHMP update was presented to Council and was available for public comment and review for the required time period; and

WHEREAS, approval of the HMP Update by FEMA constitutes formal completion of the plan and establishes eligibility for the City to pursue Hazard Mitigation funds.

NOW, THEREFORE, BE IT RESOLVED, that the Redmond City Council does hereby adopt the King County Regional Hazard Mitigation Plan and the City of Redmond Update Annex in accordance with the Federal Disaster Mitigation Act of 2000 thereby meeting the eligibility requirements for the potential receipt of Hazard Mitigation Grant Funds.

ADOPTED by the Redmond City Council this 3rd day of March, 2015.

APPROVED:

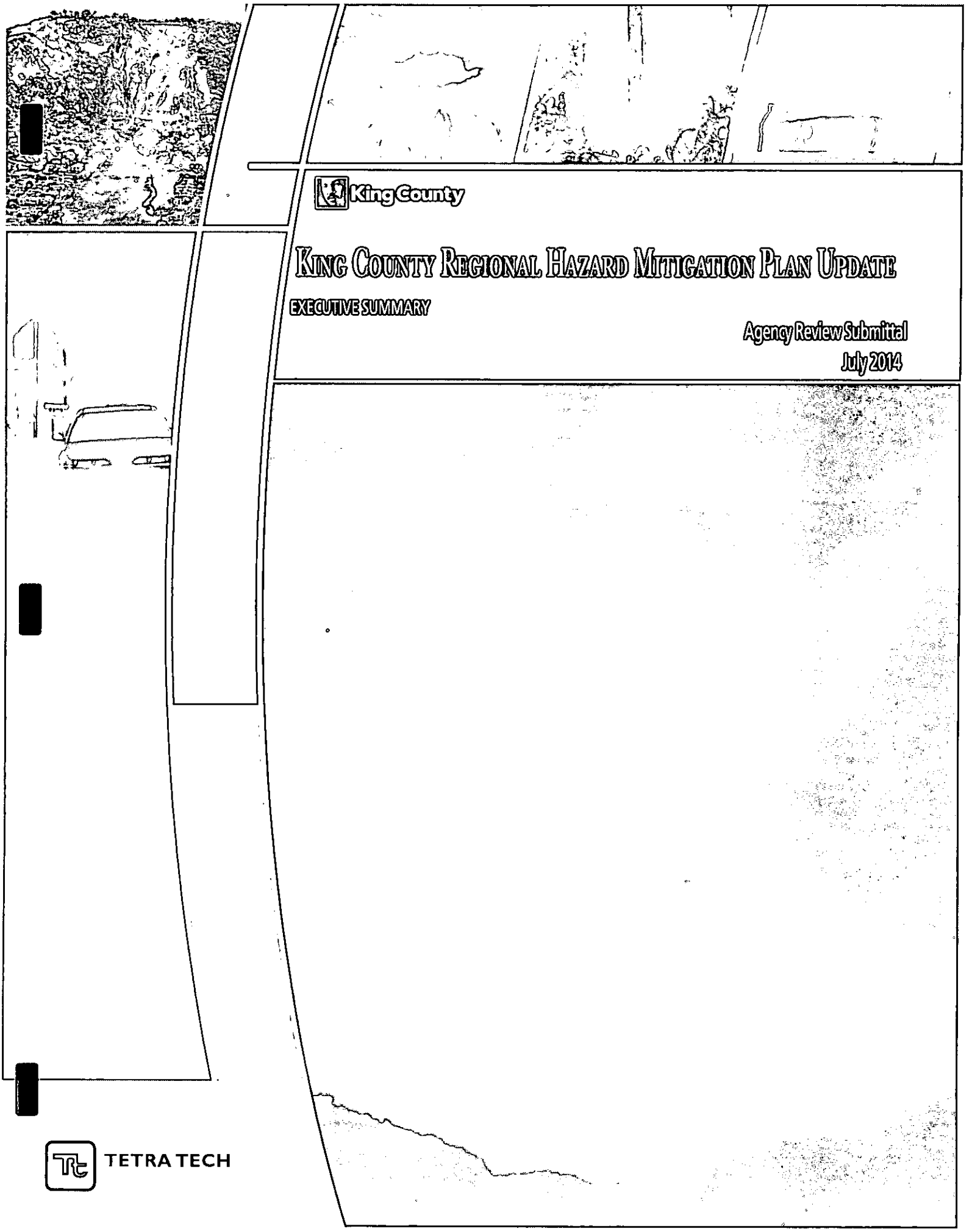
JOHN MARCHIONE, MAYOR

ATTEST:

MICHELLE M. HART, MMC, CITY CLERK (SEAL)

FILED WITH THE CITY CLERK: February 17, 2015
PASSED BY THE CITY COUNCIL: March 3, 2015
RESOLUTION NO: 1421

YES: Allen, Carson, Flynn, Margeson, Myers, Shutz, Stilin



King County

King County Regional Hazard Mitigation Plan Update

Executive Summary

Agency Review Submittal

July 2014

TETRA TECH

EXECUTIVE SUMMARY

Hazard mitigation is the use of long-term and short-term policies, programs, projects, and other activities to alleviate the death, injury, and property damage that can result from a disaster. King County and a partnership of local governments within the County have developed and maintained a regional hazard mitigation plan to reduce risks from natural disasters. The plan complies with hazard mitigation planning requirements to maintain eligibility for funding under Federal Emergency Management Agency grant programs.

PREVIOUS HAZARD MITIGATION PLANNING IN KING COUNTY

Federal regulations require periodic updates of hazard mitigation plans to reevaluate recommendations, monitor the impacts of actions that have been accomplished, and determine if there is a need to change the focus of mitigation strategies. A jurisdiction covered by a plan that has expired is no longer in compliance with the federal requirements for hazard mitigation planning.

King County and a coalition of 39 planning partners prepared an initial hazard mitigation plan that was approved by the Federal Emergency Management Agency in November 2004. This document represents the second comprehensive update (the first update was made in 2009). The 2009 plan update process was truncated after back-to-back disasters in 2009—January flooding and March snowstorms—and the emergence of a significant flooding threat in the Green River Valley due to problems at Howard Hanson Dam. The truncated process resulted in a significant decrease in planning partners covered by the regional plan (12 local governments). Many of the original planning partners developed their own plans or let their plans expire. This 2014 update is a return to a truly regional planning effort. Fifty-four local governments are covered by this plan update, including King County, 26 city and town governments, and 27 special purpose districts, as listed in Tables ES-1 and ES-2.

The team that prepared the current update also prepared a five-year progress report of actions completed by all planning partners whose existing plan is replaced by this update. In the reporting period covered by the report, the partners started or completed 165 of 283 initiatives, 58 percent.

TABLE ES-1.
MUNICIPAL PLANNING PARTNERS

King County	City of Issaquah	City of Renton
City of Algona	City of Kent	City of SeaTac
City of Auburn	City of Kirkland	City of Shoreline
City of Bothell	City of Maple Valley	City of Snoqualmie
City of Burien	City of Medina	City of Tukwila
City of Carnation	City of Mercer Island	City of Woodinville
City of Clyde Hill	City of North Bend	Town of Beaux Arts Village
City of Duvall	City of Pacific	Town of Hunts Point
City of Federal Way	City of Redmond	Town of Skykomish

TABLE ES-2.
SPECIAL PURPOSE DISTRICT PLANNING PARTNERS

Coal Creek Utility District	Shoreline Fire
Covington Water District	Skyway Water & Sewer District
Highline Water District	Soos Creek Water & Sewer District
Kent Fire	Southwest Suburban Sewer District
Kent School District	Valley Regional Fire Authority
King County Fire District No. 2	Valley View Sewer District
King County Fire District No. 45	Vashon Island Fire & Rescue
King County Hospital District No. 2 (EvergreenHealth)	Water District 111
Midway Sewer District	Water District 125
North City Water District	Water District 19
Public Hospital District No. 1 (Valley Medical)	Water District 20
Riverview School District	Water District 90
Ronald Wastewater District	Woodinville Water District
Sammamish Plateau Water & Sewer District	

PLAN UPDATE PROCESS

Updating the plan consisted of the following phases:

- **Phase 1, Organize and Review**—A planning team was assembled for the plan update, consisting of staff from the King County Office of Emergency Management and a technical consultant. The team conducted outreach to establish the planning partnership. A 19-member steering committee was assembled to oversee the plan update, consisting of planning partner staff, citizens, and other stakeholders in the planning area. Coordination with other county, state and federal agencies involved in hazard mitigation occurred throughout the plan update process. This phase included a review of the existing plan, the Washington State Hazard Mitigation Plan, and existing programs that may support hazard mitigation actions.

Phase 2, Update the Risk Assessment—Risk assessment is the process of measuring the potential loss of life, personal injury, economic injury, and property damage resulting from natural hazards. This process assesses the vulnerability of people, buildings and infrastructure to natural hazards. Risk assessment models were enhanced with new data and technologies that have become available since 2009. The risk assessment included the following:

- Hazard identification and profiling
- Assessment of the impact of hazards on physical, social and economic assets
- Vulnerability identification
- Estimates of the cost of potential damage.

Planning partners used the risk assessment to rank risk and to gauge the potential impacts of each hazard of concern on their jurisdiction. The mitigation actions recommended in this plan include some that address limitations in the modeling caused by insufficient data. For example, in light of the Oso landslide, King County has initiated an effort identified as an action item in this plan to better characterize landslide risks in the County.

- **Phase 3, Engage the Public**—The planning team implemented a public involvement strategy developed by the Steering Committee. The strategy included public meetings to present the risk assessment and the draft plan, a hazard mitigation survey, a County-sponsored website, and multiple media releases.
- **Phase 4, Assemble the Updated Plan**—The planning team and Steering Committee assembled a document to meet federal hazard mitigation planning requirements for all partners. The updated plan contains two volumes. Volume 1 contains components that apply to all partners and the broader planning area. Volume 2 contains all components that are jurisdiction-specific. Each planning partner has a dedicated annex in Volume 2.
- **Phase 5, Plan Adoption/Implementation**—Once pre-adoption approval has been granted by Washington State's Emergency Management Division and FEMA Region X, the final adoption phase will begin. Each planning partner will individually adopt the updated plan. The plan maintenance process includes a schedule for monitoring and evaluating the plan's progress periodically and producing a plan revision every 5 years. This plan maintenance strategy also includes processes for continuing public involvement and integration with other programs that can support or enhance hazard mitigation.

RISK ASSESSMENT RESULTS

Based on the risk assessment, hazards were ranked as follows for the risk they pose to the overall planning area:

1. Earthquake (High)
2. Severe Weather (High)
3. Severe Winter Weather (High)
4. Flood (Medium)
5. Landslide (Medium)
6. Wildfire (Medium)
7. Dam Failure (Low)
8. Avalanche (Low)
9. Volcano (Low)
10. Tsunami (Low).

Each planning partner also ranked hazards for its own area. Table ES-3 summarizes the categories of high, medium and low (relative to other rankings) based on the numerical ratings that each jurisdiction assigned each hazard. The results indicate the following general patterns:

- Earthquake, severe weather and severe winter weather generally ranked as the highest risks.
- Tsunami and avalanche were not ranked by most jurisdictions.
- Tsunami, volcano and wildfire tended to receive medium or low rankings based on the geographic location of each jurisdiction. Tsunami was ranked as a higher risk for coastal communities; wildfire was ranked higher for jurisdictions located farther from the highly developed areas near Puget Sound. Volcano was ranked higher for jurisdictions in the southwestern portion of the County near lahar hazard areas.
- Dam failure, volcano and wildland fire tended to have low ratings.

TABLE ES-3.
SUMMARY OF HAZARD RANKING RESULTS

	Number of Jurisdictions Assigning Ranking to Hazard			
	High	Medium	Low	Not Ranked
Avalanche	0	0	6	48
Dam Failure	1	8	20	25
Earthquake	49	5	0	0
Flood	10	25	17	2
Landslide	5	28	17	4
Severe Weather	40	13	1	0
Severe Winter Weather	44	9	1	0
Tsunami	0	3	11	40
Volcano	0	11	34	9
Wildland Fire	3	5	26	10

MITIGATION GUIDING PRINCIPLE, GOALS AND OBJECTIVES

The following principle guided the Steering Committee and the planning partnership in selecting the initiatives contained in this plan update:

> King County is a region that promotes community resilience by eliminating or reducing risks and adverse impacts from hazards, while encouraging hazard mitigation activities by all sectors.

The Steering Committee and the planning partnership established the following goals for the plan update:

1. Protect life and property.
2. Increase public awareness of hazards and mitigation opportunities.
3. Protect, restore and enhance environmental quality.
4. Leverage partnering opportunities.
5. Enhance planning activities.
6. Develop and implement cost-effective mitigation strategies.
7. Promote a sustainable economy.

The following objectives were identified that meet multiple goals, helping to establish priorities for recommended mitigation actions:

1. Increase the resilience of critical facilities, infrastructure and government operations to ensure continuity of operations during and after a hazard event.
2. Consider the impacts of hazards in all planning mechanisms that address current and future land uses and integrate hazard mitigation goals and objectives into other existing plans and programs within the planning area.

3. Develop, improve and protect systems that provide early warnings, emergency response communications and evacuation procedures.
4. Use the best available data, science and technologies to improve understanding and stakeholder awareness of the location and potential impacts of hazards, the vulnerability of building types and community development patterns, and the measures needed to mitigate hazards.
5. Seek feasible mitigation projects that provide the highest degree of hazard protection with the best benefit-cost ratio.
6. Emphasize the hazard mitigation message in and promote the value of public outreach and education programs, such as Take Winter By Storm and What to Do to Make it Through.
7. Improve coordination among all sectors to mitigate hazards.
8. Reduce hazard-related risks and vulnerability to potentially isolated populations within the planning area.
9. Retrofit, purchase or relocate structures in high hazard areas, including those known to be repetitively damaged.
10. Strengthen codes to improve the hazard resilience of new construction.
11. Leverage social networks and other social capital mechanisms to educate the public and stakeholders and promote resilience.
12. Seek actions that protect or improve the environment for future environmental conditions.
13. Form private/public partnerships to leverage and share resources.
14. Partner with the private sector, including small businesses, to promote hazard mitigation as part of standard business practice.
15. Educate businesses about contingency planning countywide, targeting small businesses and those located in high risk areas, and promote employee education about disaster preparedness while on the job and at home.

MITIGATION ACTIONS

Mitigation actions presented in this update are activities designed to reduce or eliminate losses resulting from natural hazards. The update process resulted in the identification of nearly 700 mitigation actions for implementation by individual planning partners, as presented in Volume 2 of this plan. In addition, the steering committee and planning partnership identified seven countywide initiatives benefiting the whole partnership, as listed in Table ES-4.

IMPLEMENTATION

Full implementation of the recommendations of this plan will require time and resources. The measure of the plan's success will be its ability to adapt to changing conditions. King County and its planning partners will assume responsibility for adopting the recommendations of this plan and committing resources toward implementation. The framework established by this plan commits all planning partners to pursue initiatives when the benefits of a project exceed its costs. The planning partnership developed this plan with extensive public input, and public support of the actions identified in this plan will help ensure the plan's success.

TABLE ES-3.
ACTION PLAN—COUNTYWIDE MITIGATION ACTIONS

Hazards Addressed	Lead Agency	Possible Funding Sources or Resources	Time Line[a]	Objectives
GW-1—Continue to participate in and support the "Resilient King County" initiative.				
All hazards	King County Office of Emergency Management (OEM)	Local, possible grant funding (FEMA, DHS)	Ongoing	1, 3, 4, 7, 13, 14, 15
GW-2—Continue to maintain a website that will house the regional hazard mitigation plan, its progress reports and all components of the plan's maintenance strategy to provide the planning partners and public ongoing access to the plan and its implementation.				
All Hazards	King County OEM	King County OEM operating budget	Ongoing	4, 6, 7, 11, 15
GW-3—Continue to leverage/support/enhance ongoing, regional public education and awareness programs (such as "Take Winter by Storm and "Make it Through") as a method to educate the public on risk, risk reduction and community resilience.				
All Hazards	King County and all planning partners	Local	Ongoing	4, 6, 7, 11, 13, 14, 15
GW-4—Continue to support the use, development and enhancement of a regional alert and notification system.				
All Hazards	King County OEM	Local, possible grant funding (FEMA, DHS, NWS, NOAA)	Ongoing	3, 4, 7, 13
GW-5—Strive to capture time-sensitive, perishable data—such as high water marks, extent and location of hazard, and loss information—following hazard events to support future updates to the risk assessment.				
All hazards	All Planning partners	Local, FEMA (PA)	Short-term	4, 7
GW-6—Encourage signatories for the regional coordination framework for disasters and planned events.				
All Hazards	King County OEM	Local	Ongoing	3, 7, 13, 14
GW-7—Continue ongoing communication and coordination in the implementation of the King County Regional Hazard Mitigation Plan and the 2013 King County Flood Hazard Management Plan.				
Flood	King County OEM, King County Department of Natural Resources & Parks, King County Flood Control District	Local	Ongoing	2, 4, 5, 7, 10, 12

CHAPTER 20.
CITY OF REDMOND UPDATE ANNEX

20.1 HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact

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20.2 JURISDICTION PROFILE

The following is a summary of key information about the jurisdiction and its history; additional information about the City of Redmond is attached in profile data sheets at the end of this annex:

- **Date of Incorporation**—1912
- **Current Population**—55,840 as of 2013; population doubles to 110,000 during the workday.
- **Population Growth**—Redmond population exploded from 1,426 in 1960 to 55,840 in 2013. According to information tracked by the Washington State Office of Financial Management, Redmond's population more than doubled in a 232 percent increase between 1980 and 2010. Population rose steadily from 23,318 in 1980; 35,800 in 1990; 45,256 in 2000; and 54,144 in 2010. Details are provided in the profile data sheets attached at the end of this annex.
- **Location and Description**—The City of Redmond is located in western Washington State, approximately 17 miles east of Seattle and 281 miles west of Spokane. The city is a center of technology and home to some of the major high-tech firms in the country, including Microsoft, Nintendo of America, AT&T, and Physio-Control. Redmond also has a significant concentration in avionics/aerospace, homeland defense, and equipment manufacturers. The nearest seaport is the Port of Seattle on Puget Sound. Lake Sammamish lies to the south of downtown Redmond. The Sammamish River and Bear Creek pass through the City. The Cascade Range, a 1,000-mile long chain of volcanic mountains, which extends from Northern California to southern British Columbia, Canada is about 40 miles east of Redmond. WA State Highway 520 runs through the City. Cities bordering Redmond include Bellevue on the southwest, Kirkland on the west and Sammamish with a small border to the southeast.

  The City topography includes hills and valleys. The soil in the valley is classified as alluvial soil, which may liquefy during an earthquake. Some of the hills surrounding the valley have steep slopes. Two large park facilities are adjacent to Redmond: Willows Run Golf Course to the north and Marymoor Park to the south, adjacent to Lake Sammamish.
- **Neighborhoods**-Map NP-1 Redmond Neighborhoods in the profile data sheets attached at the end of this annex shows the location of the neighborhoods.
  - North Redmond borders the Sammamish Valley and is north of the Education Hill neighborhood. Located on Education Hill (one of the City's three hills), the area is residential and primarily single family housing. There are a few parcels in the neighborhood that are zoned commercial. This area could be isolated from services if

transportation routes are limited due to a hazard event. Fire Station 17 was built in this neighborhood beginning in 2010 and went into service in March 2012.

- Education Hill is located in northeast Redmond. It consists of primarily low- to moderate-density residential and includes the Emerald Heights retirement community. There are very few services that are currently available in the neighborhood and they are likely to become isolated in the event of a hazard. There are numerous schools and open space that could be utilized for emergency response and recovery.
- Sammamish Valley is located in the valley floodplain. The area is characterized by large amounts of open space, parks and low-density residential housing. A variety of business and manufacturing parks are present as well. This neighborhood is located both in the floodplain and the liquefaction zone.
- Willows/Rose Hill is located in northwest Redmond. This is a hill neighborhood that is primarily residential. The Olympic Pipeline runs through this neighborhood. A variety of business and manufacturing parks are present as well.
- Overlake is located on a hill in the southwest region of Redmond. This area has residential, commercial and business parks. Microsoft is located in Overlake. This location may provide opportunities for emergency operations, but (as is the case with much of Redmond) it is located very close to the Seattle Fault and could experience extreme ground shaking in the case of an earthquake along the Seattle Fault.
- Grass Lawn is located north of Overlake on the western side of Redmond. This hill neighborhood is mostly low- to moderate-density residential. The Olympic Pipeline runs through this neighborhood.
- Idylwood is Redmond's lakefront neighborhood. It is located along Lake Sammamish, east of Overlake. The neighborhood is primarily low- to moderate- density residential. Along the lake there are some multi-family buildings. Home values are especially high in Idylwood. There are several schools, churches and open space.
- Bear Creek is located in the central eastern river valley in Redmond. This is the least populated neighborhood and has diverse zoning. There are residential areas to the north and west sides of the neighborhood. The residential area includes a mobile home park. There is some community retail in the north. The central area has resource lands. Land south of Bear Creek and Evans Creek provides commercial and industrial activities.
- Downtown is located in central Redmond on the valley floor, which is subject to both floods and liquefaction. City services are located in downtown, including City Hall, Fire Station Headquarters, Police Station and most of the commercial retail. Dense transit-oriented development, including residential housing, has been encouraged in this area.
- Southeast Redmond is split between the hill and the valley. Lowlands are subject to liquefaction. This neighborhood has residential, commercial and manufacturing parks.

- **Brief History**—Pioneers arrived in the Sammamish Valley in 1871 and began a logging industry that continued into the 1920s. Logging gave way to agriculture, with dairy, chicken, and truck farms the norm. The Evergreen Point floating bridge was completed in 1963, providing an easy link between Seattle and Redmond. Better roads heralded strong residential development, followed by commercial growth that began slowly in the 1970s and accelerated significantly in the 1990s and 2000s with high-tech companies like Microsoft growing enormously. In 100 years, Redmond grew from an incorporated area of three square blocks to over 17 square miles.
- **Climate**—Redmond's weather is typical of the Seattle area, with mild summers and cool, wet winters. Temperatures rarely dip far below freezing in the winter and rarely reach above 80 degrees Fahrenheit in the summer. Annual average rainfall is 35.5 inches, with rain year-

round, but most falling in the 7-month period of October through May. The annual mean temperature is 52.8 degrees Fahrenheit.

- **Governing Body Format**—The City of Redmond is governed by a Mayor and seven-member City Council. The City consists of eight departments: Mayor/Executive, Police, Fire, Public Works, Parks, Finance, Planning, and Human Resources. The City has five committees which report to the council. Redmond's Mayor and City Councilmembers serve on twenty-three regional committees. City Council assumes responsibility for the adoption of this plan; the Mayor will oversee its implementation.
- **Development Trends**—City of Redmond adopted its 2030 Comprehensive Plan in 2011. It maintains the vision of Redmond's future with vibrant regional growth centers in the Downtown and Overlake neighborhoods and improved connections among all of Redmond's 10 neighborhoods. The urban centers will provide for concentrated residential, employment, and transportation and will support sustainable growth for the next 20 years; approximately two-thirds of the City's new housing and 60 percent of new commercial floor area are planned to occur in Downtown and Overlake. Those areas have already experienced appreciable residential and commercial growth for a number of years. Outside of the urban center neighborhoods, Southeast Redmond is the primary location for additional employment growth and most remaining capacity for additional single-family development is in the Willows-Rose Hill neighborhood. Details are provided in the profile data sheets attached at the end of this annex.

20.3 CAPABILITY ASSESSMENT

The following tables assess Redmond's capabilities in various areas:

- Table 20-1: Legal and Regulatory
- Table 20-2: Fiscal
- Table 20-3: Administrative and Technical
- Table 20-4: National Flood Insurance Program (NFIP) Compliance
- Table 20-5: Classifications under various community mitigation programs

TABLE 20-1.
LEGAL AND REGULATORY CAPABILITY

	Local Authority	State or Federal Prohibitions	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements					
Building Code	Yes	No	No	Yes	Current 2012 International Codes, 2012 Uniform Plumbing Code, 2009 ICC/ANSI A117.1 and Redmond Municipal Code (RMC) Title 15
Zoning	Yes	No	No	Yes	Redmond Zoning Code (RZC) – RMC Title 21; 4/16/2011
Subdivisions	Yes	No	No	Yes	RZC 21.74; 4/16/2011
Stormwater Management	Yes	No	Yes	Yes	RMC 15.24 implemented in Stormwater Technical Notebook
Post Disaster Recovery	Yes	No	No	No	Redmond Municipal Code, Ch. 2.20 Emergency Preparedness; Hazard Mitigation Plan Annex
Real Estate Disclosure	No	No	No	Yes	WA State mandates certain disclosures by Real Estate agents under RCW 64.06
Growth Management	Yes	No	Yes	Yes	City of Redmond Comprehensive Plan; 12/17/2011
Site Plan Review	Yes	No	Yes	Yes	RZC 21.76; 4/16/2011
Public Health and Safety	No	No	Yes	No	Seattle/King County Public Health
Environmental Protection	Yes	No	Yes	Yes	RZC 21.64; 4/16/2011
Planning Documents					
General or Comprehensive Plan	Yes	No	Yes	Yes	Redmond 2030 Comprehensive Plan adopted 12/06/2011, Ordinance 2638
Is the plan equipped to provide linkage to this mitigation plan?					Yes
Floodplain or Basin Plan	Yes	No	No	Yes	Floodplain regulations in RZC 21.64.040 (Frequently Flooded Areas, Ordinance 2663 effective 09/29/2012) and RMC 15.04 (Flood Control, Ordinance 2645 passed 02/07/2012) Comprehensive Flood Hazard Management Plan was adopted by Council Resolution 1315 on 12/15/2009. Citywide Watershed Management Plan was adopted by City Council - Number 13-212 (C14) on 12/03/2013.

TABLE 20-1.
LEGAL AND REGULATORY CAPABILITY

	Local Authority	State or Federal Prohibitions	Other Jurisdictional Authority	State Mandated	Comments
Stormwater Plan	Yes	No	Yes	Yes	Watershed Plan approved 12/2013 (no ordinance); Water Resources Strategic Plan (draft) in progress; RMC 13.06 Stormwater Management Code, 13.18 Stormwater Management Utility
Capital Improvement Plan	Yes	No	Yes	Yes	Capital Investment Program (CIP) 2013-2018 adopted as part of the 2013-2014 budget, Ordinance 2676 on 12/04/2012.
What types of capital facilities does the plan address?	Water, Wastewater, Stormwater, Transportation, Construction, Parks, Fire, Police				
How often is the plan revised/updated?	Every 2 years				
Habitat Conservation Plan	Yes	No	Yes	No	Tri-County Chinook Recovery Plan City of Redmond Critical Areas Code, stream regulations, buffer setbacks RZC 21.64; 4/16/11
Economic Development Plan	Yes	No	Yes	No	Draft Strategic Plan, no date of adoption; WA State Growth Management Act
Shoreline Management Plan	Yes	No	Yes	Yes	RZC 21.68; 9/16/11
Community Wildfire Protection Plan	No	No	No	No	No plan
Response/Recovery Planning					
Comprehensive Emergency Management Plan	Yes	No	Yes	Yes	City of Redmond Municipal Code, Ch. 2.20 Emergency Preparedness
Threat and Hazard Identification and Risk Assessment	Yes	No	Yes	No	City of Redmond Municipal Code, Ch. 2.20 Emergency Preparedness; in Hazard Mitigation Plan
Terrorism Plan	No	No	Yes	No	
Post-Disaster Recovery Plan	Yes	No	Yes		City of Redmond Municipal Code, Ch. 2.20 Emergency Preparedness; Hazard Mitigation Plan Annex
Continuity of Operations Plan	Yes	No	Yes	No	City of Redmond Municipal Code, Ch. 2.20 Emergency Preparedness; Comprehensive Emergency Management Plan (CEMP)
Public Health Plans	No	No	Yes	No	Seattle-King County Public Health

TABLE 20-2.
FISCAL CAPABILITY

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	No*
Incur Debt through Special Tax Bonds	No*
Incur Debt through Private Activity Bonds	No*
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Other	Real Estate Excise Tax; King County Flood Control District-Basin Opportunity Fund

*Jurisdiction has access to the resource indicated; however, local policies may prevent or prohibit use of these resources for mitigation projects or programs.

TABLE 20-3.
ADMINISTRATIVE AND TECHNICAL CAPABILITY

Staff/Personnel Resources	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Planning, Public Works, Parks
Engineers or professionals trained in building or infrastructure construction practices	Yes	Planning, Public Works
Planners or engineers with an understanding of natural hazards	Yes	Planning, Public Works
Staff with training in benefit/cost analysis	Yes	Planning, Finance
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	Planning, Public Works, Finance, Parks
Scientist familiar with natural hazards in local area	Yes	Planning, Public Works
Emergency manager	Yes	Police
Grant writers	Yes	Police, Fire, Planning, Public Works, Parks

TABLE 20-4.
NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

What department is responsible for floodplain management in your community?	Planning
Who is your community's floodplain administrator? (department/position)	Jeff Dendy, Senior Engineer, Planning
Do you have any certified floodplain managers on staff in your community?	No
What is the date of adoption of your flood damage prevention ordinance?	4/16/2011
When was the most recent Community Assistance Visit or Community Assistance Contact?	01/09/2012
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes, however the preliminary updated maps are even better.
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Help in identifying work that requires a permit from work that does not.
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	Not yet. We are in the process of joining.

TABLE 20-5.
COMMUNITY CLASSIFICATIONS

	Participating?	Classification	Date Classified
Community Rating System	In progress	In progress	In progress
Building Code Effectiveness Grading Schedule	Yes	2	7/23/2007
Public Protection	Yes	3	Not available
StormReady	In progress	In progress	In progress
Firewise	No	N/A	N/A
Tsunami Ready (if applicable)	N/A	No	No

20.4 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

Table 20-6 lists past occurrences of natural hazards within the jurisdiction, going back to 1990. Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: None
- Number of FEMA-Identified Severe Repetitive Loss Properties: none
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties Known to Have Been Mitigated: N/A

TABLE 20-6.
NATURAL HAZARD EVENTS

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Snow and ice storm	4056	2012 January 12	$122,984 in road materials (anti-icer) and overtime (final cost submitted to FEMA)
Flood	1817	2009 January 6	
Snowstorm	1825	2008 Dec. 18-28	9-18 inches of snow accumulation in Redmond due to a series of five significant storms. $225,487 in debris removal, snow & ice removal, materials, repairs and overtime for emergency response (final cost submitted to FEMA)
Windstorm	1682	2006 December 14	$197,598 in debris removal, equipment usage, labor, contracted work, repairs (final cost submitted to FEMA)
Nisqually Earthquake	1361	2001 February 28	Minor cosmetic damage to city buildings and infrastructure did not exceed $7,000
Flood, Landslide	1159	1997 January 17	Unknown
Columbus Day Wind Storm		1993 October 11	Unknown
Windstorm		1993 March	Unknown
Inaugural Day Windstorm	981	1993 January 20	Unknown
Severe Storm		1991 March	Unknown
Severe Storm	883	1990 November 9	Unknown
Severe Storm	852	1990 January 6	Unknown

20.5 HAZARD RISK RANKING

Table 20-7 presents the ranking of the hazards of concern. Hazard area extent and location maps are included at the end of this chapter. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.

20.6 STATUS OF PREVIOUS PLAN INITIATIVES

Table 20-8 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

TABLE 20-7.
HAZARD RISK RANKING

Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Severe Winter Weather	48
2	Severe Weather	48
3	Earthquake	32
4	Flood	12
5	Wildfire	6
6	Landslide	6
7	Dam Failure	6
8	Volcano	0
9	Tsunami	0
10	Avalanche	0

TABLE 20-8.
PREVIOUS ACTION PLAN IMPLEMENTATION STATUS

Action #	Action Status: Completed	Action Status: Carry Over to Plan Update	Action Status: Removed; No Longer Feasible	Comments
RD-1	X	**RD-1**		**Outreach activities** are ongoing, completed every year. Participated in a wide variety of preparedness fairs and gave dozens of preparedness talks to the public, businesses and visitors throughout the whole community. Developed the Redmond Ready basic preparedness education class for City of Redmond employees and Redmond residents. Began delivering Redmond Ready classes in July 2012. Trained approximately 200 City of Redmond employees to make them Redmond Ready. Conducted several Redmond Ready Days to train the public in basic preparedness, First Aid, and CPR. Worked with Microsoft to develop the www.redmondready.org web portal, which promotes the program and which lives in the cloud and can be updated quickly by OEM staff during a disaster. Promoted the regional Make it Through preparedness campaign. Conducted Map Your Neighborhood classes. Conducted an average of three CERT classes every year. Partnered with the Redmond Citizens Corps Council and Amateur Radio Emergency Services regarding community outreach. Worked with many partner agencies to develop a high-quality, low-cost emergency preparedness calendar for 2013 and 2014 that is a great year-round resource.

TABLE 20-8.
PREVIOUS ACTION PLAN IMPLEMENTATION STATUS

Action #	Action Status: Completed	Action Status: Carry Over to Plan Update	Action Status: Removed; No Longer Feasible	Comments
RD-2	X	**RD-2**		**Alternative service centers** Fire Station 17 was built and went into service in March 2012. The station is located on Education Hill, away from the liquefaction zone in downtown Redmond. Future development will concentrate in both the Downtown and Overlake Urban centers. Overlake is away from the liquefaction zone.
RD-3	X	**RD-3**		**Safe-to-fail mechanisms** Emergency power generation was substantially upgraded at the Public Works Maintenance and Operations Center and at the Redmond Municipal Campus. Redundant network infrastructure has been added. Water tanks on Education Hill were seismically retrofitted. Public Works is in the process of their Buildings Facilities Condition Assessment, the outcome of which will give the city a better handle on the condition of our assets and what may need to be implemented. The Public Works construction group is looking at bridge seismic retrofits (such as 148th). Our bridges are rated for safety based on King County's bridge inventory system.

TABLE 20-8.
PREVIOUS ACTION PLAN IMPLEMENTATION STATUS

Action #	Action Status: Completed	Action Status: Carry Over to Plan Update	Action Status: Removed; No Longer Feasible	Comments
RD-4	X	**RD-4**		**Resilient transportation networks** 1. Redmond is completing a grid network in both the Downtown and Overlake Urban Centers where most of the growth will be occurring in the future. 2. All of our bridges are inspected regularly and the existing bridges meet reasonable earthquake standards with the exception of the 148th Bridge north of Redmond Way which has funding for a seismic retrofit. All the new bridges and bridge replacements are designed to current earthquake standards. 3. City is developing a complete multi-modal transportation system to provide travel choices including bringing light rail to Overlake in 2023 and eventually to downtown. 4. Redmond has a state of the art Traffic Operations Center that has cameras at key intersections to monitor and change parking signals remotely to respond to changing traffic conditions. 5. Redmond's R-TRIP program offers infrastructure for ride matching, transit route information, and periodic communication and incentives to encourage individuals to explore ways of getting between home and work that don't rely on driving alone and support finding a potential carpool partner or bus route that could be used in the event of an emergency. This program has nearly 29,000 registered users among employees and residents in Redmond. Further, by contract with King County Metro, we provide these services in our community. 6. Bridge at 95th and Bear Creek needs to be rebuilt by 2016 to address flooding and seismic issues.

TABLE 20-8.
PREVIOUS ACTION PLAN IMPLEMENTATION STATUS

Action #	Action Status: Completed	Action Status: Carry Over to Plan Update	Action Status: Removed; No Longer Feasible	Comments
RD-5	X	RD-5		**Business outreach** programs are ongoing, completed every year. Police Department conducted Critical Incident Protocol (CIP) outreach regarding crime prevention and man-made hazards. Emergency Management conducted many preparedness sessions at businesses, helping businesses prepare their employees. As part of the City's Economic Development initiatives, the City has developed close communications and relationships with businesses through its One Redmond partnership (which took the place of the former Greater Redmond Chamber of Commerce) and neighborhood level business outreach which could be deployed to assist outreach and communication about emergency planning and operations. Past outreach has included: winter time promotions via www.GOrtrip.com to encourage winter emergency planning; and partnering with the Greater Redmond Transportation Management Association in 2012 to bring in Ed Gabriel, Principal Deputy Assistant Secretary for Preparedness and Response, US Health and Services to raise awareness by businesses of all sizes about the need for emergency preparedness.
RD-6	X	RD-6		**Flood tolerant community** Redmond does not allow development in the floodway and has adopted regulations for developments outside of the floodway but within the floodplain. One of those regulations requires compensating floodplain storage for these developments so we don't reduce our floodplain capacity. Redmond completed a large trunk line (storm drainage line) in the BNSF railroad right of way that will carry the 50 year storm for much of downtown. Additionally, Redmond is constructing an enormous stormwater vault in Overlake behind Sears. The vault will reduce flow rates from about 345 ac. The vault is about 1.5 ac in area and 20 feet deep. Two additional vaults are proposed in Overlake in the future including one to be constructed with the light rail station. Both the trunk line in downtown and the Overlake vaults should greatly reduce the risk of flooding in Redmond's urban centers. Evans Creek will be moved to the north out of the industrial area. Regional stormwater facilities will go into SE Redmond to mitigate localized flooding. Sewer pump stations are being updated.

20.7 HAZARD MITIGATION ACTION PLAN AND EVALUATION OF RECOMMENDED INITIATIVES

Table 20-9 lists the initiatives that make up the jurisdiction's hazard mitigation plan. Table 20-10 identifies the priority for each initiative. Table 20-11 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

TABLE 20-9.
HAZARD MITIGATION ACTION PLAN MATRIX

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline	Included in Previous Plan?
#RD-1—To mitigate impacts involved with isolation following a severe hazard event, Redmond will develop outreach activities to enable Redmond residents, businesses and visitors to survive in-place for more than three days.							
New and Existing	Severe Weather, Earthquake, Flood, Wildfire, Landslide, Dam Failure	4, 6, 7, 8, 11, 13, 14, 15	OEM	Low	General Fund	Ongoing	Yes
#RD-2—To ensure provision of vital services following a hazard event, Redmond will develop alternative service centers in less hazardous areas.							
New	Severe Weather, Earthquake, Flood, Wildfire, Landslide, Dam Failure	1, 5, 8	Planning	Medium	Grants, Bonds	Long Term	Yes
#RD-3—To mitigate damage to vulnerable structures and infrastructure, Redmond will promote retrofitting with safe-to-fail mechanisms.							
Existing	Severe Weather, Earthquake, Flood, Landslide	1, 5, 8	Planning	Low	General Fund	Long Term	Yes
#RD-4—To mitigate against the loss of major transportation facilities in and around the City, Redmond will invest resources in building more resilient transportation networks.							
New and Existing	Severe Weather, Earthquake, Flood, Landslide, Dam Failure	1, 5, 8, 12	Public Works	Low	General Fund, Grant	Long Term	Yes

TABLE 20-9.
HAZARD MITIGATION ACTION PLAN MATRIX

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline	Included in Previous Plan?
#RD-5—To mitigate against the functional loss of business communities, Redmond will develop and deliver business outreach programs.							
New and Existing	Severe Weather, Earthquake, Flood, Wildfire, Landslide, Dam Failure	4, 6, 7, 8, 11, 13, 14, 15	OEM	Low	General Fund	Ongoing	Yes
#RD-6—To mitigate impacts from expected increases in incidents of shallow flooding, Redmond will build a flood tolerant community able to accommodate increases in low impact flooding.							
New and Existing	Severe Weather, Flood, Landslide	1, 5, 7, 8, 12	Public Works	Low	General Fund	Long Term	Yes
#RD-7—Continue to maintain compliance and good standing under the National Flood Insurance Program. This will be accomplished through the implementation of floodplain management programs that, at a minimum, will meet the minimum requirements of the NFIP, which include the following: **• Enforcement of the adopted flood damage prevention ordinance;** **• Participating in floodplain identification and mapping updates; and** **• Providing public assistance/information on floodplain requirements and impacts.**							
New and existing	Flood	2, 4, 10, 12	King Co.	Low	General Fund	Ongoing	No
#RD-8—Integrate the hazard mitigation plain into other plans, ordinances or programs to dictate land uses within the jurisdiction.							
New	All Hazards	2, 4, 8, 10	Planning	Low	General Fund	Short-term	No
#RD-9—Continue to support the county-wide initiatives identified in this plan.							
New and Existing	All Hazards	4,6,11,12, 13, 14, 15	City of Redmond	Low	General Fund	Short term	No
#RD-10—Actively participate in the plan maintenance strategy identified in this plan.							
New and Existing	All Hazards	4, 6, 11, 12, 13, 14, 15	King County OEM City of Redmond	Low	General fund	Short term	No

TABLE 20-10.
MITIGATION STRATEGY PRIORITY SCHEDULE

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority[a]
RD-1	8	High	Low	Yes	No	Yes	High
RD-2	3	Medium	Medium	Yes	Yes	Yes	Low
RD-3	3	Medium	Low	Yes	Yes	Yes	Low
RD-4	4	Medium	Low	Yes	Yes	Yes	Low
RD-5	8	High	Low	Yes	No	Yes	High
RD-6	5	Medium	Low	Yes	Yes	Yes	Low
RD-7	4	Medium	Low	Yes	No	Yes	High
RD-8	4	Medium	Low	Yes	No	Yes	High
RD-9	7	Medium	Low	Yes	No	Yes	High
RD-10	7	Low	Low	Yes	Yes	Yes	High

a. See Introduction for explanation of priorities.

TABLE 20-11.
ANALYSIS OF MITIGATION INITIATIVES

	Initiative Addressing Hazard, by Mitigation Type[a]					
Hazard Type	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Avalanche	--	--	--	--	--	--
Dam Failure	2, 3, 4, 6, 8, 10	3, 4	1, 5, 9		2, 4, 9	
Earthquake	2, 3, 4, 8, 10	3, 4	1, 5, 9		2, 3, 4, 9	4
Flood	2, 3, 4, 6, 7, 8, 10	3, 4, 7	1, 5, 7, 9	6, 7	2, 3, 4, 7, 9	4, 6
Landslide	2, 3, 4, 6, 8, 10	3, 4	1, 5, 9	6	2, 4, 9	
Severe Weather	2, 3, 4, 6, 8, 10	3, 4	1, 5, 9	6	2, 3, 4, 9	4, 6
Severe Winter Weather	2, 3, 4, 6, 8, 10	3, 4	1, 5, 9	6	2, 3, 4, 9	4, 6
Tsunami	--	--	--	--	--	--
Volcano	--	--	--	--	--	--
Wildfire	2, 3, 4, 8, 10		1, 5, 9		2, 9	

a. See Introduction for explanation of mitigation types.

20.8 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

Public Works recently completed a Facilities Condition Assessment for City of Redmond-owned buildings. Results of the assessment will help determine which buildings require further evaluation.

Hazard scenarios should continue to be examined to determine cost effective ways to address the hazard if possible and make the community and its infrastructure more resilient.

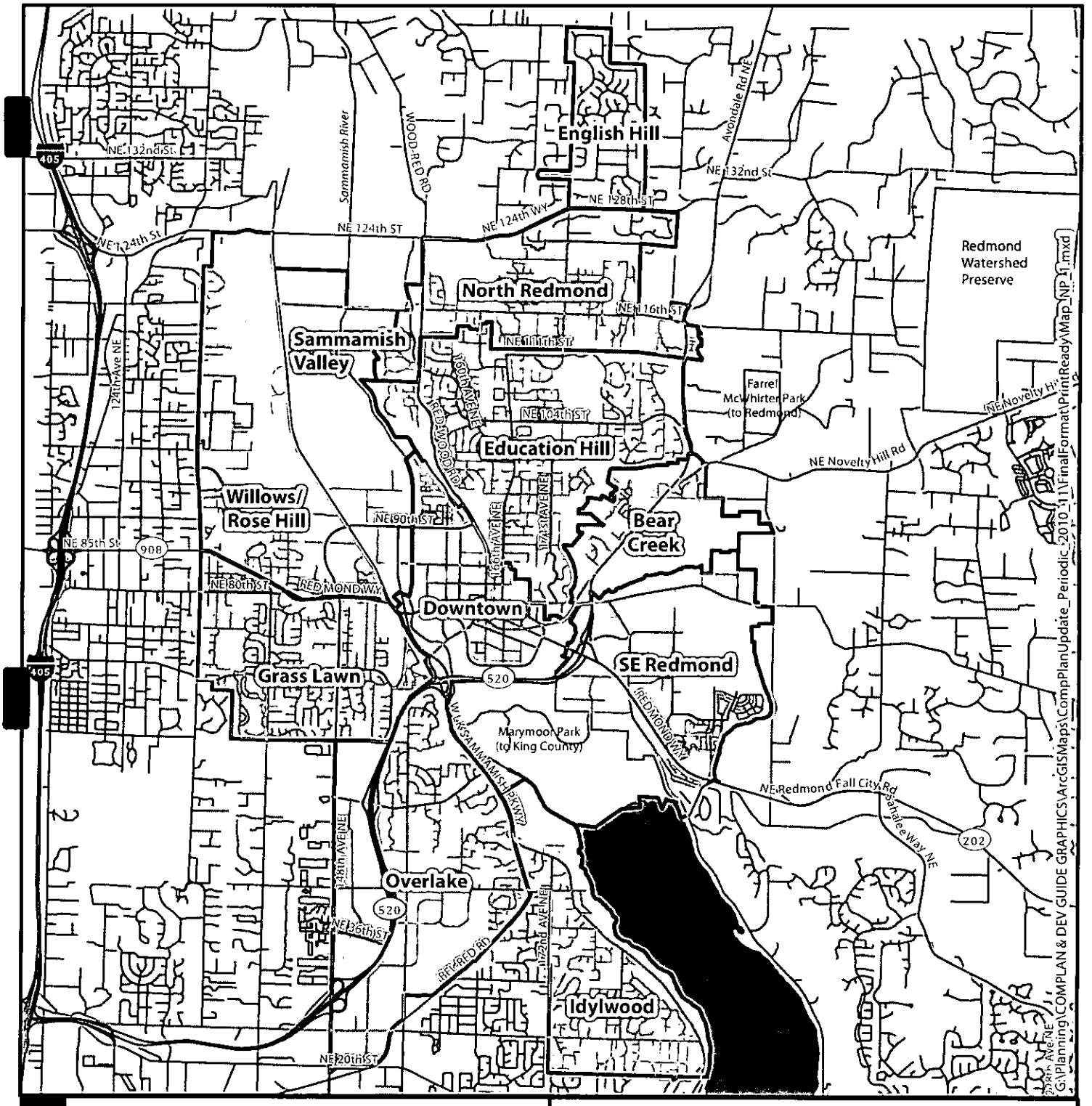
20.9 ADDITIONAL COMMENTS

This 2014 City of Redmond Hazard Mitigation Plan updates the 2009 "City of Redmond Hazards Mitigation Plan Update," which updated and superseded the 2004 plan. The 2009 Hazard Mitigation Plan is robust at over 235 pages. The 2014 and 2009 plans were developed through similar yet sufficiently divergent processes and formats that the 2009 Hazard Mitigation Plan will still prove a useful Redmond-specific reference, addressing some items and hazards not covered in the 2014 regional effort.

Dam failure is the only hazard added to this 2014 Redmond plan that was not addressed in the 2009 Redmond Hazard Mitigation Plan. The addition is due to the existence of a private dam in King County that could affect Bear Creek from the north. No deficiencies in the dam are currently known; its existence is merely noted for completeness.

The following profile data sheets provide additional information that is relevant for the current City of Redmond annex.

CITY OF REDMOND PROFILE DATA SHEETS



Legend

- Neighborhood
- Redmond City Limits

MAP NP-1
Redmond Neighborhoods

Effective: December 17, 2011

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Miles

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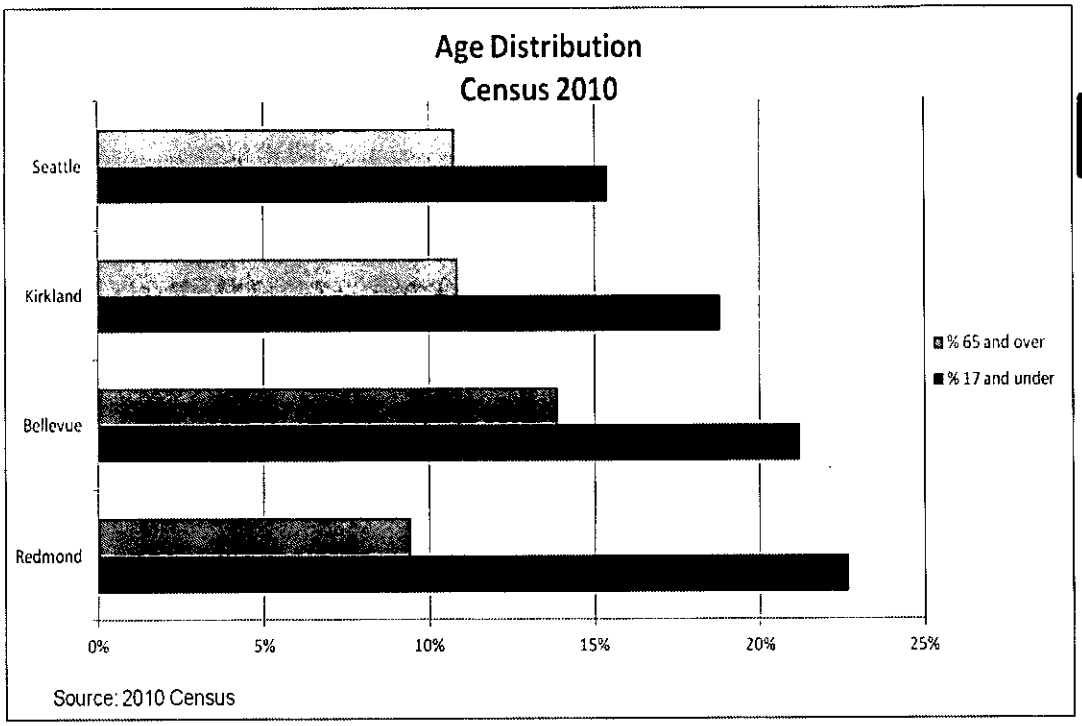
PEOPLE

Children and Seniors

Redmond's youth population (under 18 years of age) accounts for nearly one-quarter of the population. Seniors (ages 65 and over) account for almost 10% of the population. **The under-18 population outnumbers the senior population more than 2-to-1.**

Redmond has a **larger percentage of youth** than Seattle, Kirkland, and Bellevue. The portion of seniors is similar to Seattle's and Kirkland's.

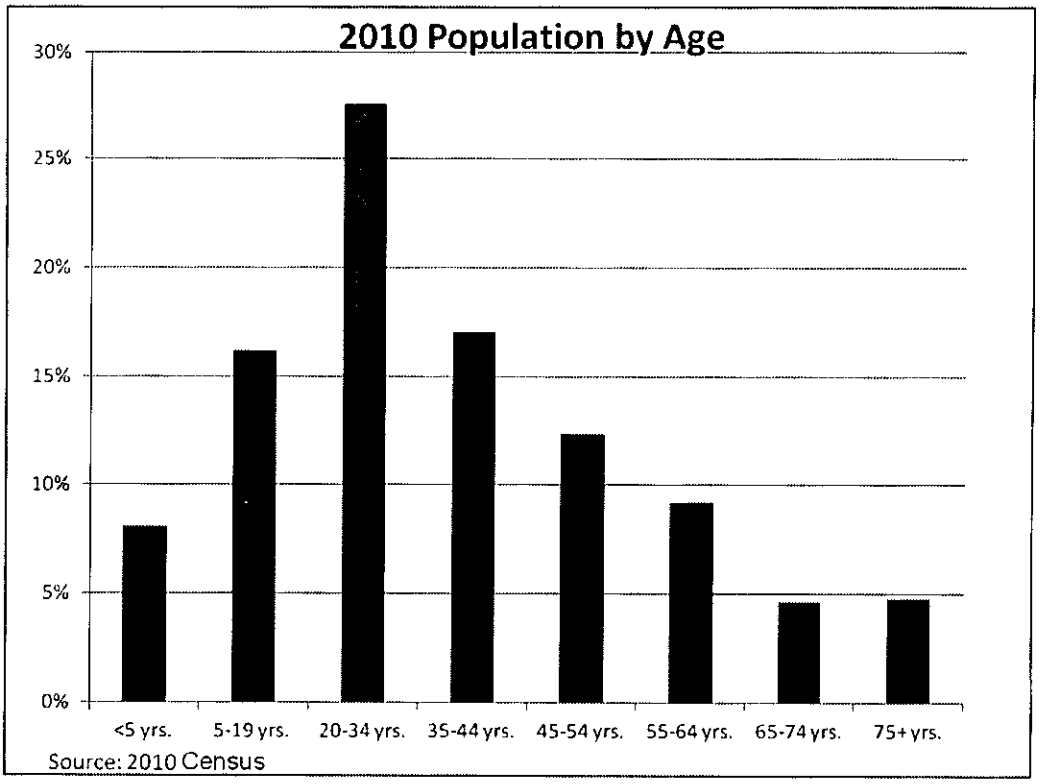


City	Under 18	65 and over
Redmond	23%	10%
Bellevue	21%	14%
Kirkland	19%	11%
Seattle	15%	11%

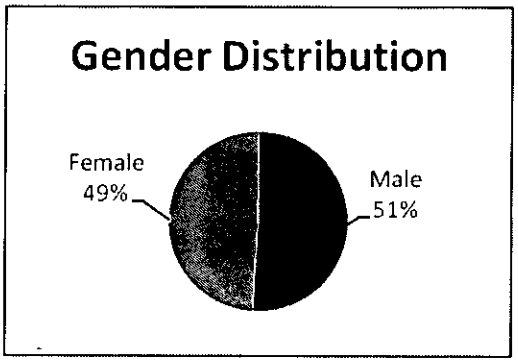
PEOPLE

Age Distribution

There is a significantly higher concentration of people 20-34 years old, at nearly 28% of the total population, compared to the total 65 and over population, at about 10%. **Adults ages 18-64 account for two-thirds of Redmond's population.**



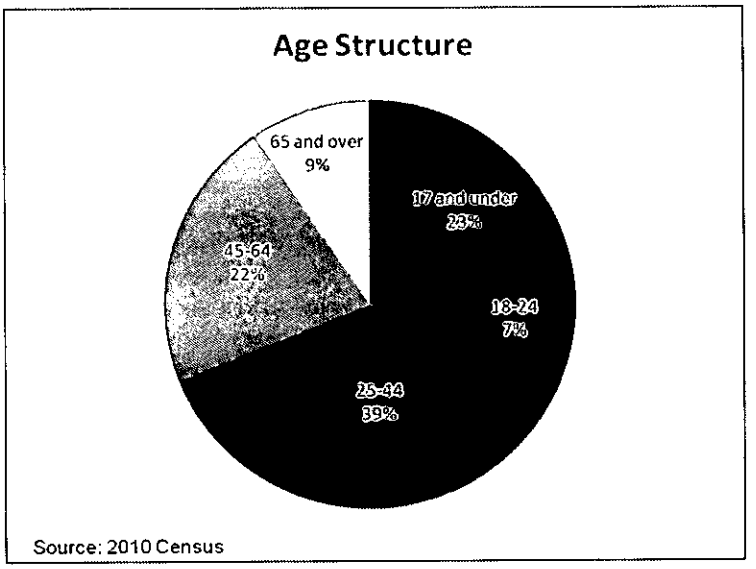
Age	Percentage of population
< 5 years	8%
5-19 years	16%
20-34 years	28%
35-44 years	17%
45-54 years	12%
55-64 years	9%
65-74 years	5%
75+ years	5%



PEOPLE

Age Structure

The majority of the population is between the ages of 18-64 years old, and less than 10% is 65 years and over. The children (17 and under) represent just under one-quarter of Redmond's population.

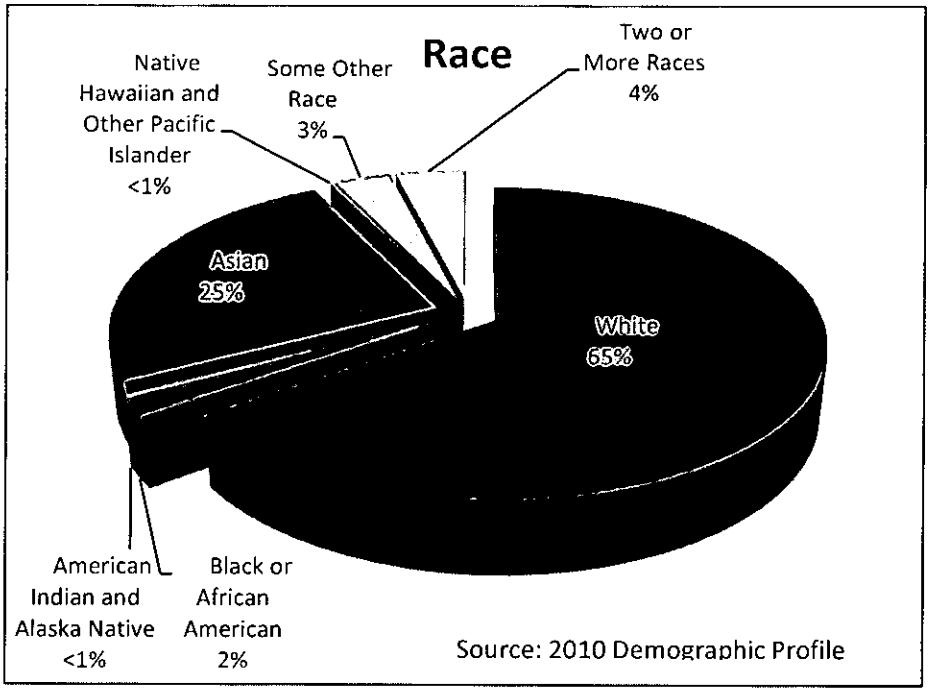


Age	Number of People	Percent of Population
17 and under	12,317	23%
18-64	36,706	68%
65 and over	5,121	9%
Total	54,144	100%

PEOPLE

Racial Distribution

Redmond's single-race population is composed of almost **two-thirds white, one-quarter Asian, 8% Hispanic or Latino, 2% Black or African American, less than 1% Indian American and Alaska Native, and less than 1% Native Hawaiian and other Pacific Islander.** Three percent consider themselves 2 or more races, and 1% consider themselves some other race.



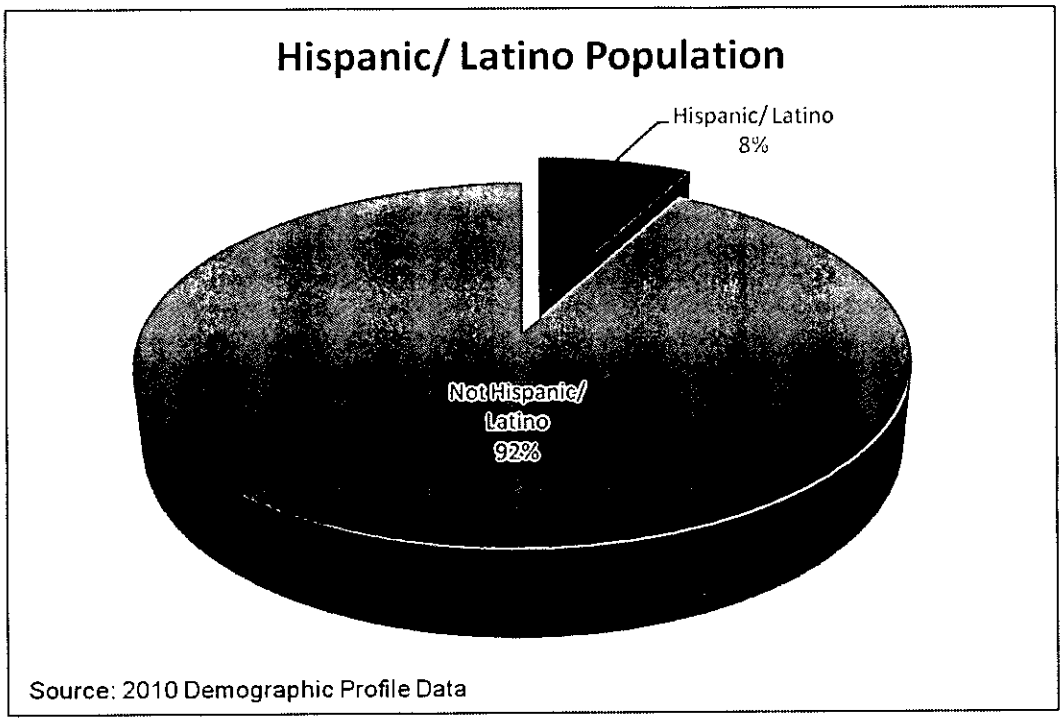
Source: 2010 Demographic Profile

Race	Number of People
White alone	35,296
Black or African American alone	924
American Indian and Alaska Native alone	200
Asian alone	13,733
Native Hawaiian and Other Pacific Islander alone	82
Some Other Race alone	1,744
Two or More Races	2,165

PEOPLE

Hispanic or Latino Population

About 4,214 individuals in Redmond, or **8% of the total population, are Hispanic/Latino.**



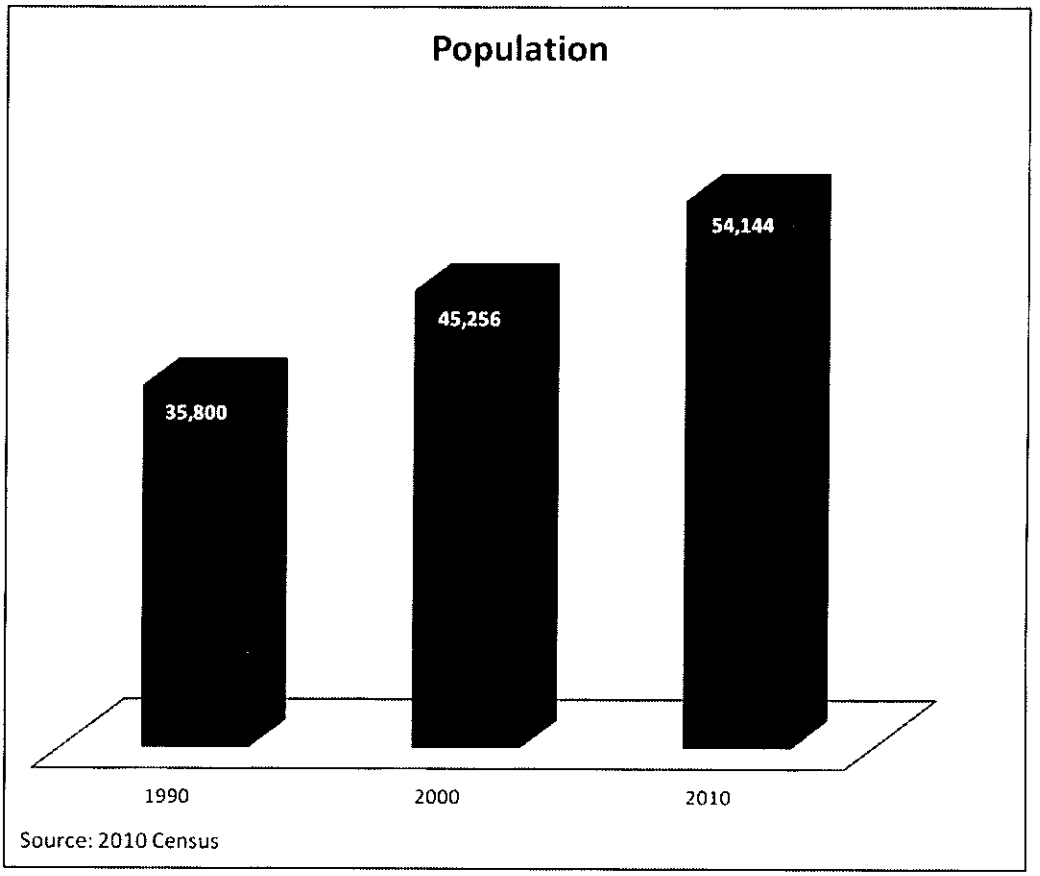
Source: 2010 Demographic Profile Data

Race	Count
Hispanic/ Latino	4,214
Race other than Hispanic/ Latino	49,930

PEOPLE

Population

Redmond's population **grew from 35,800 people in 1990** to **54,144 in 2010**, a 51% increase. Although the population saw a net increase in both decades, the rate of growth decreased between 2000 and 2010, compared to the period between 1990-2000.



Source: 2010 Census

Year	Youth	Adult	Senior
2010-Redmond	23%	68%	9%
2010-Washington	18%	69%	13%
2020-Washington	18%	65%	18%
2030-Washington	19%	60%	21%

PEOPLE

Age Distribution

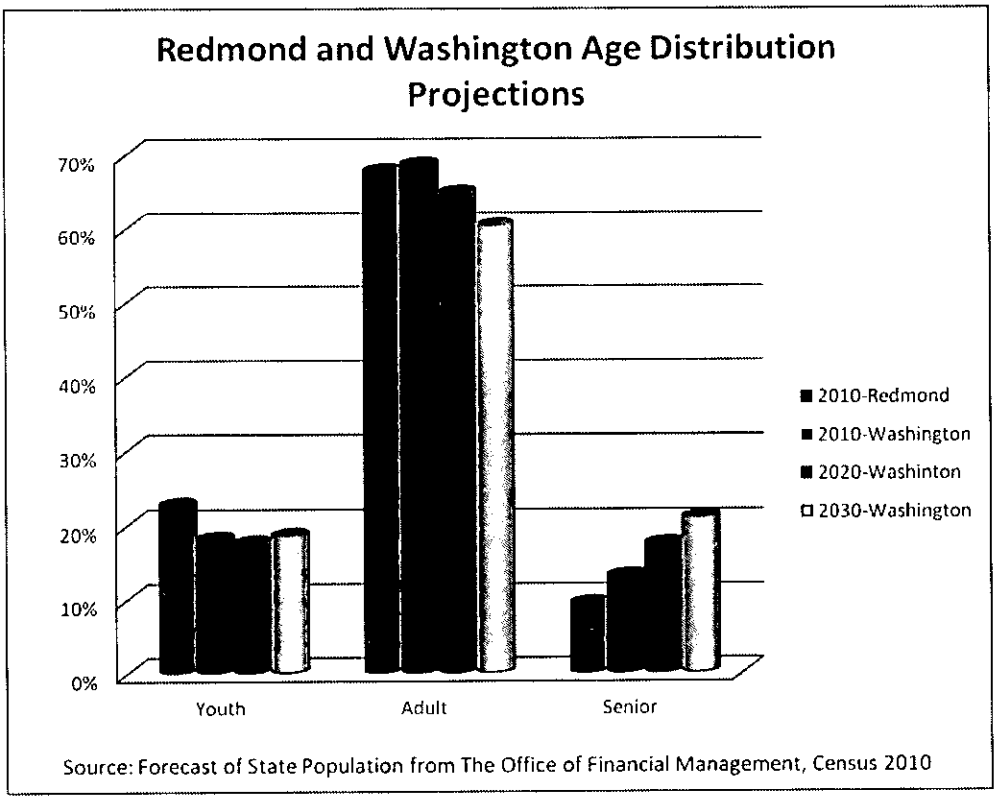
The age distribution in 2010 is comprised of **nearly one-quarter youth.** Nearly two-thirds of the population, and **the largest portion of the Redmond's population are adults,** and **seniors account for one-tenth of the population.**

The Washington State Office of Financial Management predicts that, in the next two decades, the youth population will remain fairly consistent. The highly concentrated adult age group will move into the senior age group. **This trend will result in a steady decrease in adult population and a steady increase in the senior population.**

Youth: 17 and under

Adult: 18 to 64

Senior: 65 and over

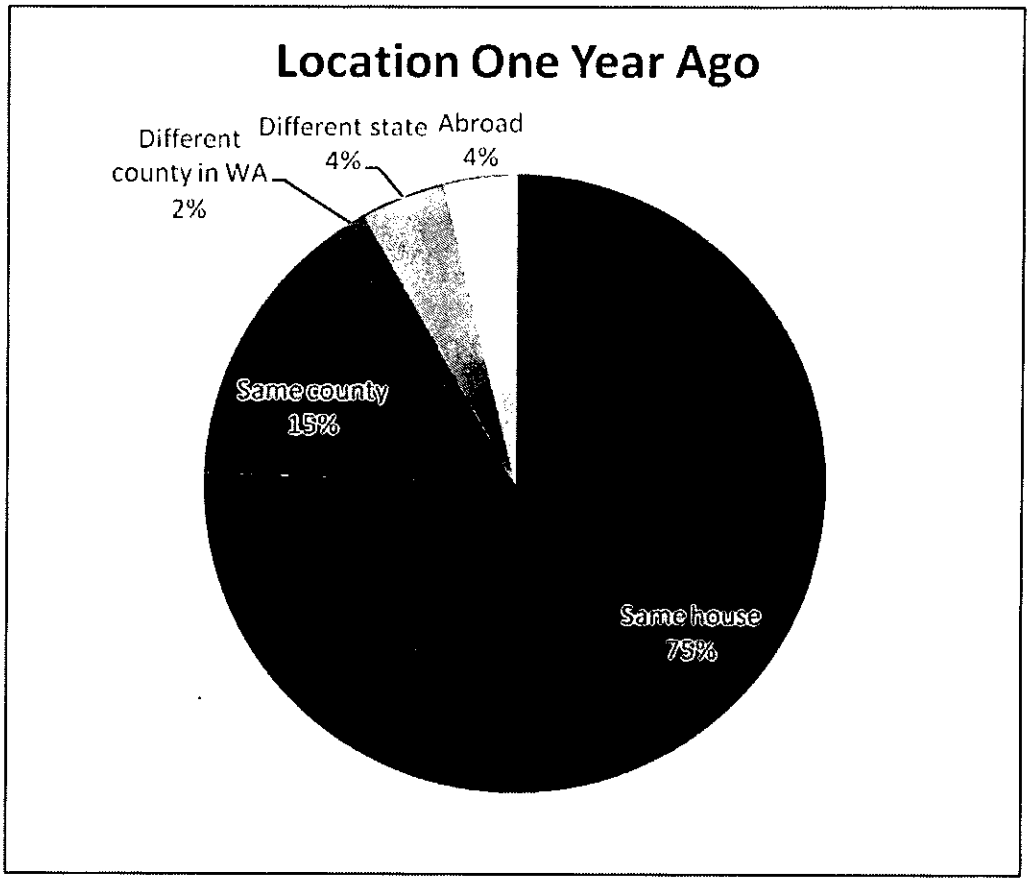


Source: Forecast of State Population from The Office of Financial Management, Census 2010

PEOPLE

Geographic Mobility

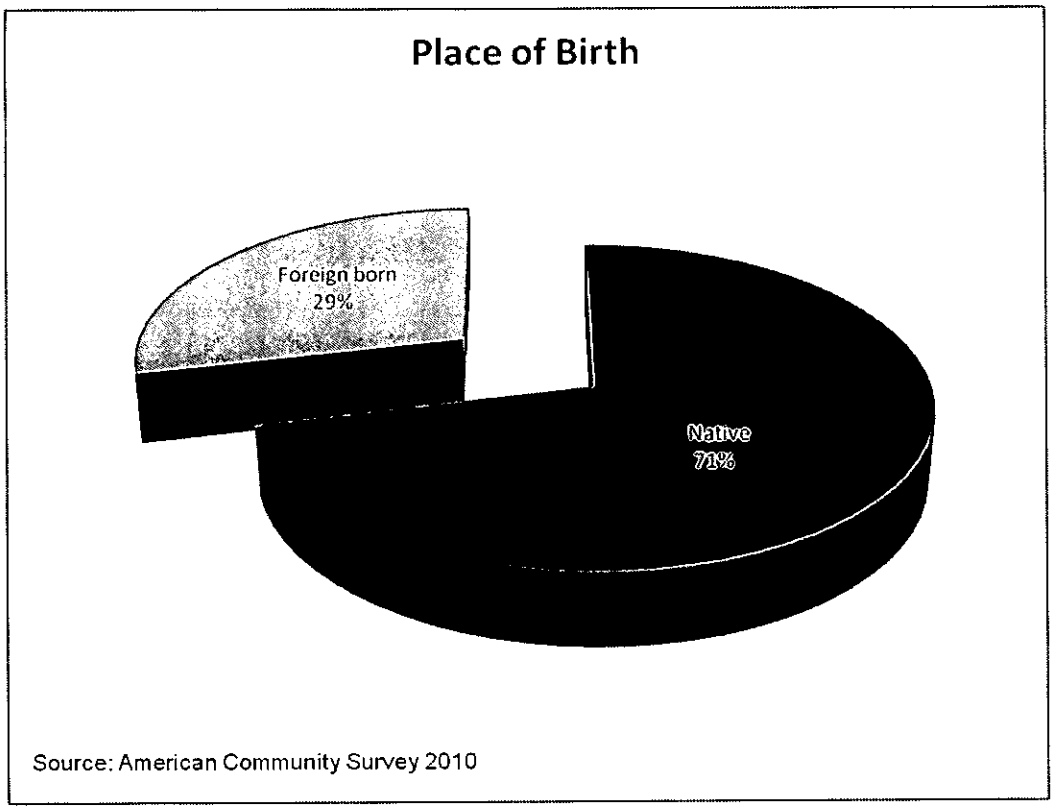
Three-quarters of Redmond residents lived in the same house one year ago. Fifteen percent moved from another home King County, 2% from another county in Washington, and 4% each from another state or another country.



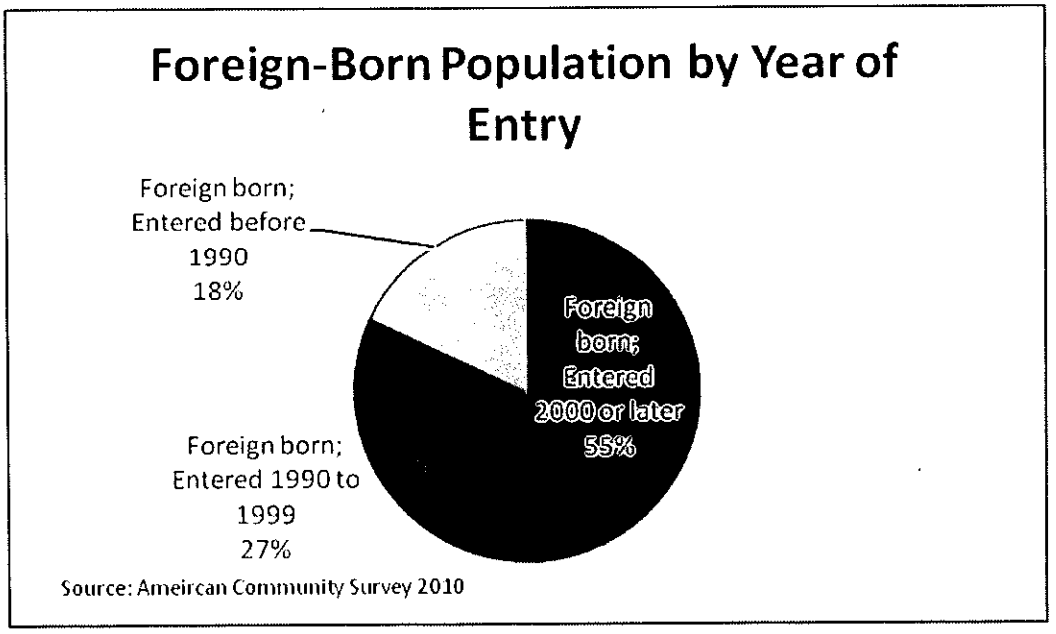
PEOPLE

Place of Birth

About 15,000 of Redmond's residents, or **29% of the total population, are foreign born.**



Of the foreign-bon population, **55% immigrated to the US in or after the year 2000,** 27% from 1990-1999, and the remaining 18% prior to 1990.

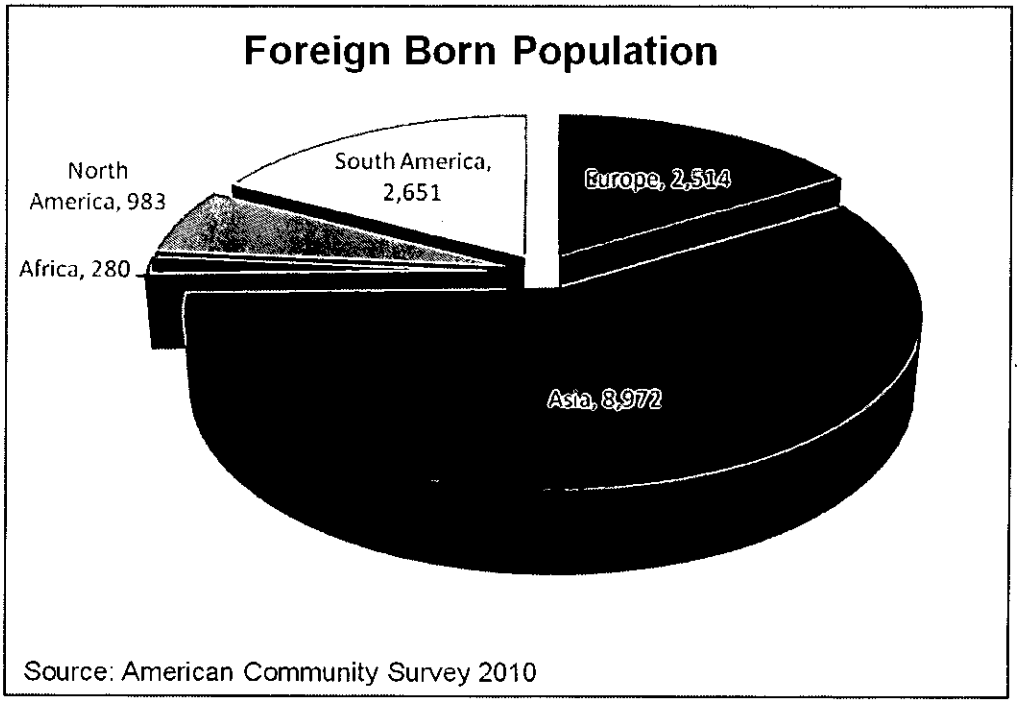


PEOPLE

Foreign-Born Population

Nearly 9,000 residents—almost 60% of all foreign-born residents—immigrated from Asia. South Americans and Europeans comprise 2,651 and 2,514 residents, respectively. Under 1,000 other North Americans, primarily Canadians, have come to Redmond. Finally, 280 people immigrated to Redmond from Africa.

Thirty-nine percent of Redmond residents were born in another state in the US. Foreign-born individuals and native Washingtonians each account for just under one-third of the population, and the remaining 1% consists of US natives born abroad.



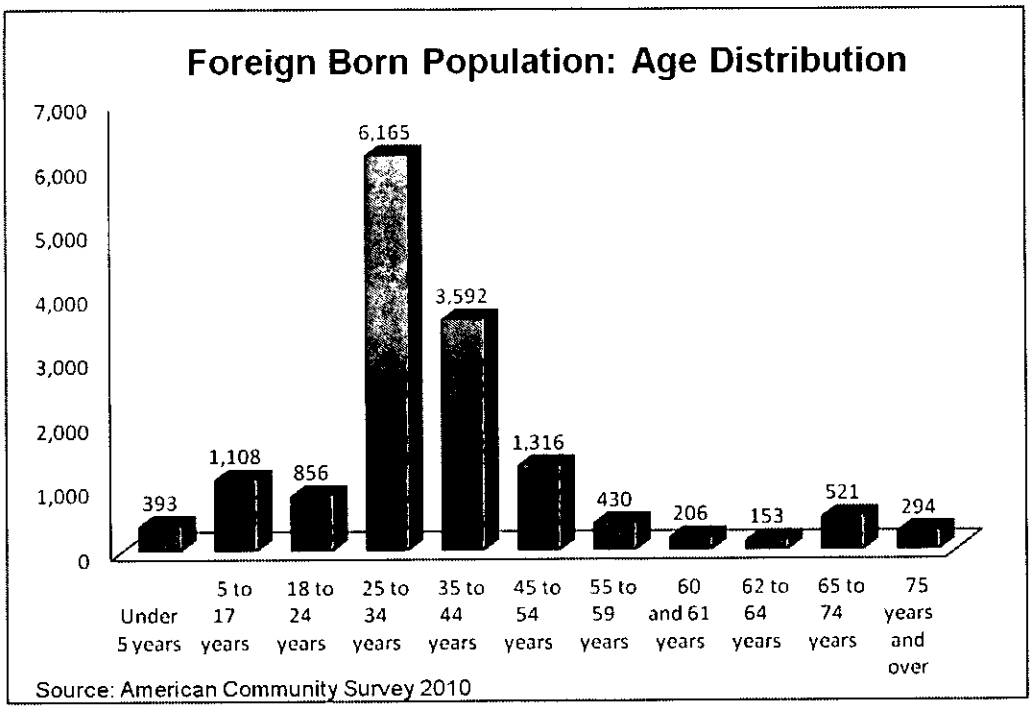
Source: American Community Survey 2010

Country Origin	Population Percentage
Europe	16.3%
Asia	58.3%
Africa	1.8%
North America	6.4%
South America	17.2%

PEOPLE

Foreign Born Population: Age Distribution

The most frequently-occurring age group among the foreign born population is 25 to 34 years (young adults), followed by ages 35 to 44.

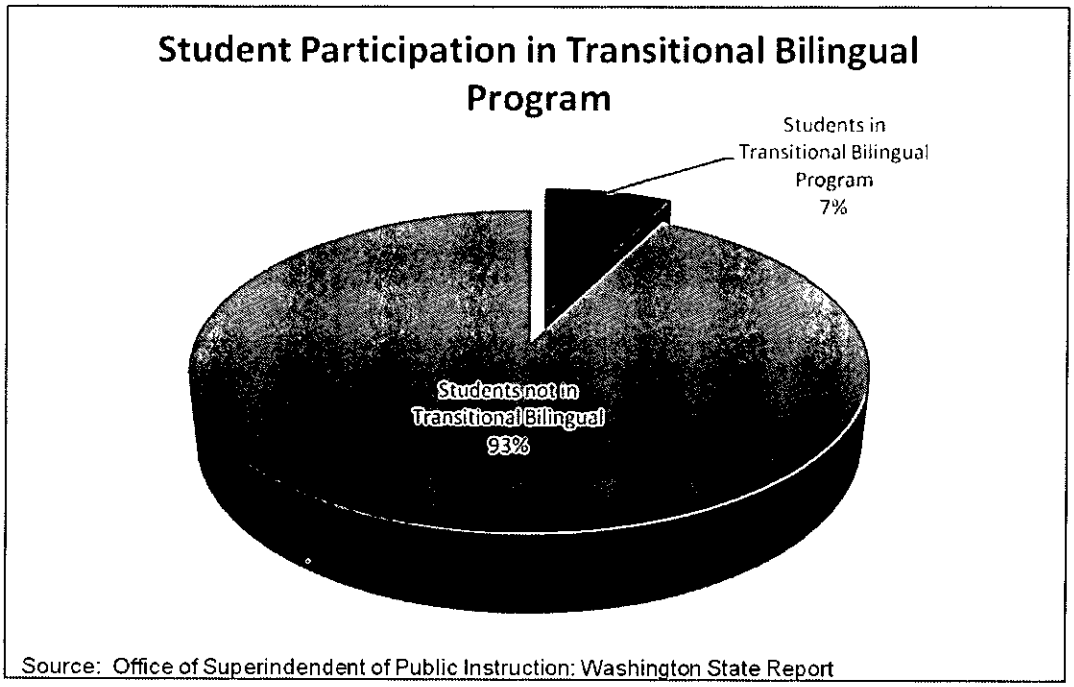


Foreign born:	Number of people	Percentage of population
Under 5 years	393	2.6%
5 to 17 years	1,108	7.4%
18 to 24 years	856	5.7%
25 to 34 years	6,165	41.0%
35 to 44 years	3,592	23.9%
45 to 54 years	1,316	8.8%
55 to 59 years	430	2.9%
60 and 61 years	206	1.4%
62 to 64 years	153	1.0%
65 to 74 years	521	3.5%
75 years and over	294	2.0%

PEOPLE

Transitional Bilingual Program Participation

There are 7,851 students enrolled in the 12 schools in Redmond (Lake Washington School District), of whom **581 participate in the Transitional Bilingual Program.**



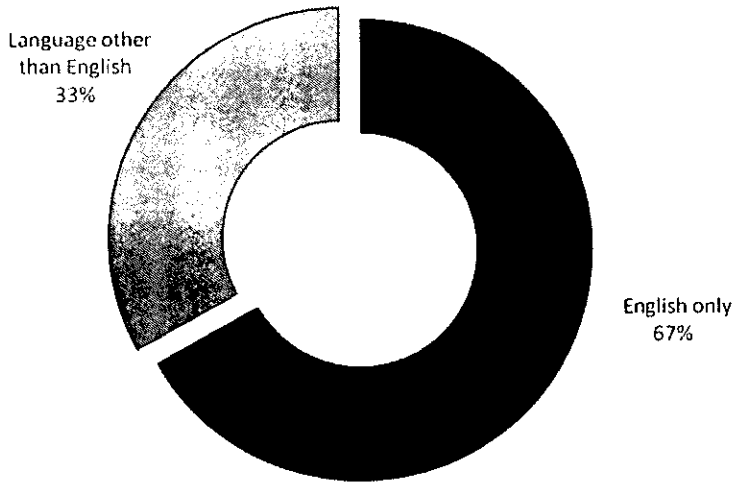
Source: Office of Superindendent of Public Instruction: Washington State Report

PEOPLE

Language Spoken at Home

Sixty-seven percent of residents in Redmond speak English at home, while the remaining 33% speak other languages. These numbers are very similar to the proportions of foreign born and native born residents.

Language Spoken at Home

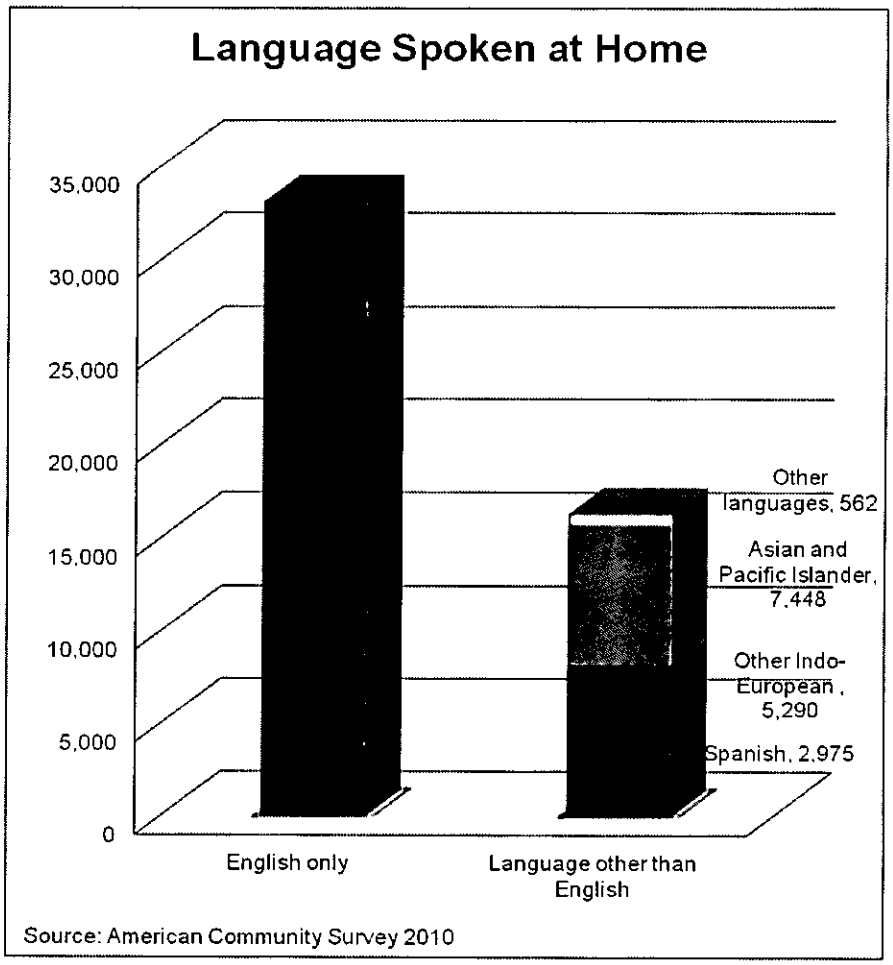


Source: American Community Survey 2010

PEOPLE

Language Spoken at Home (continued)

After English, **Asian and Pacific Islander languages form the second-largest linguistic group,** accounting for at 45% of foreign-language speakers, followed by Indo-European languages (besides Spanish) with 32%, Spanish with 18%, and all other languages with 3.5%.

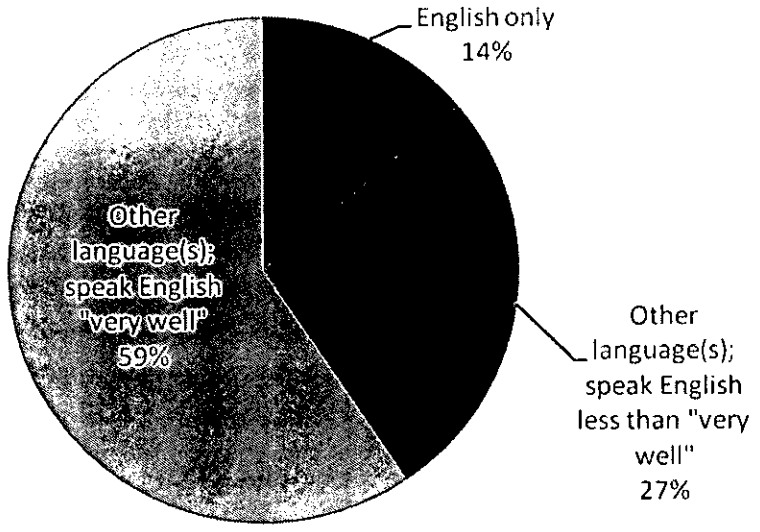


PEOPLE

Non-English Speakers

Fourteen percent of all foreign born Redmond residents speak only English. Fifty-nine percent speak primarily another language but also speak English "very well," and the remainder speak primarily another language but do not speak English "very well."

Languages Among Foreign Born Residents



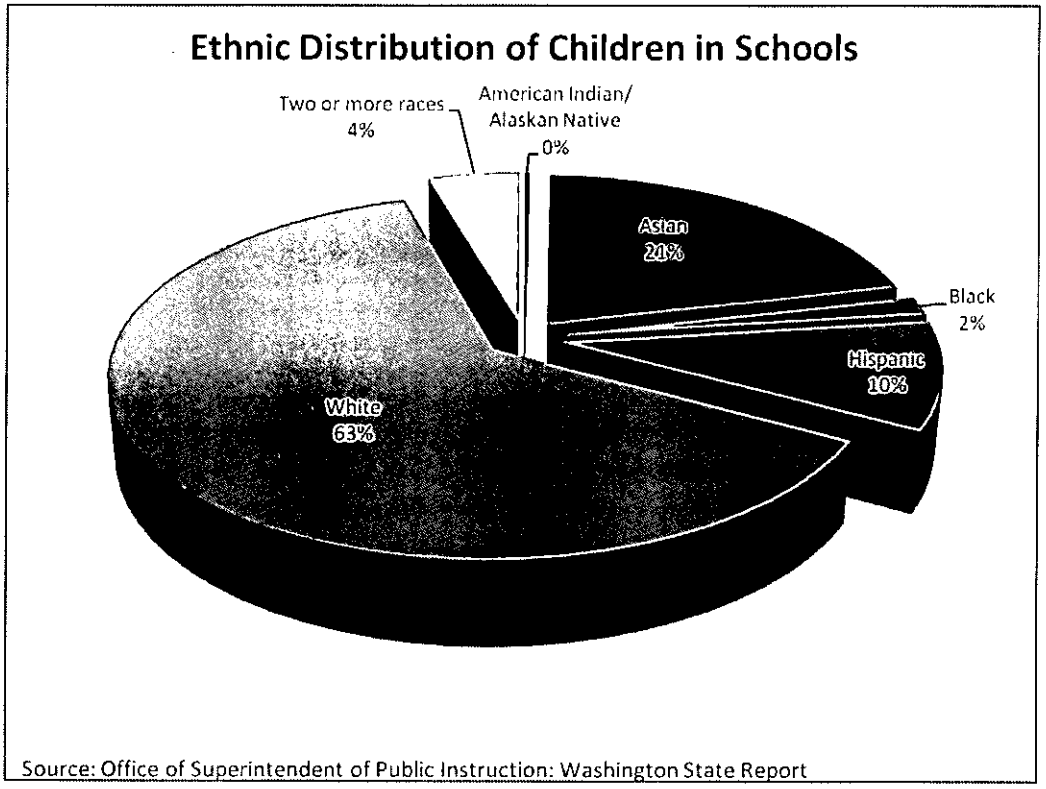
Source: American Community Survey 2010

PEOPLE

Ethnic Distribution in Schools

The ethnic distribution of students in Redmond schools is **very similar to the ethnic distribution for the entire city of Redmond**, generally differing by no more than one to two percentage points.

Sixty-three percent of students are white, followed by Asian at 21%, Hispanic at 10%, Black with 2%, American Indian/ Alaskan Native at less than 1%, and two or more races at 4% of the student population.



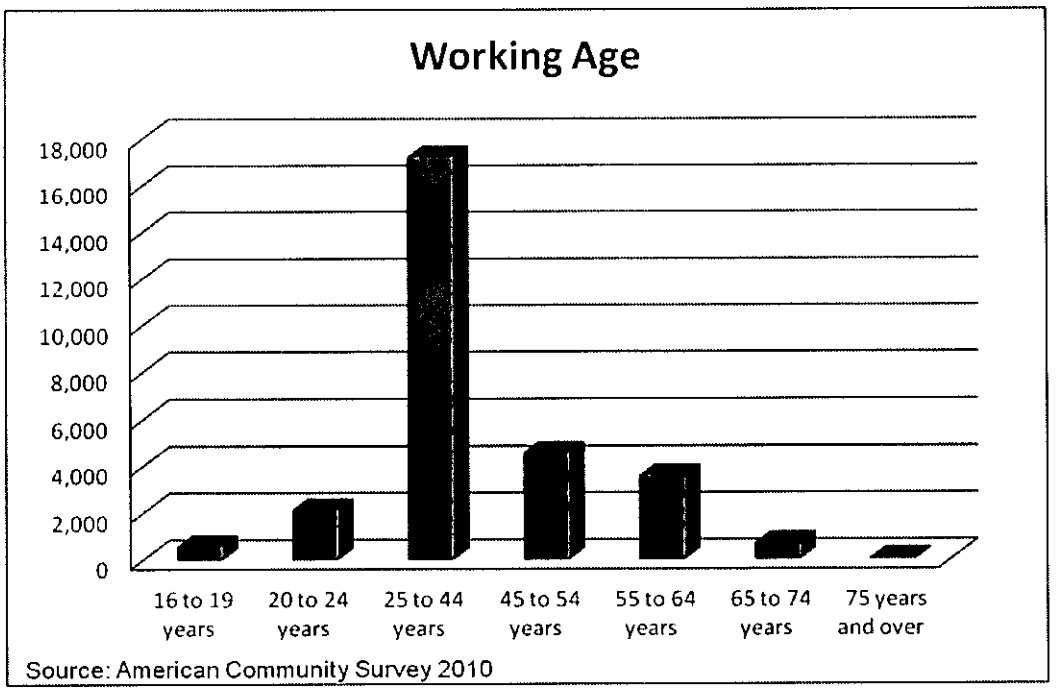
Source: Office of Superintendent of Public Instruction: Washington State Report

American Indian/ Alaskan Native	Asian	Black	Hispanic	White	Two or more races
19	1648	136	770	4899	353

PEOPLE

Working Age

Of the working-age Redmond residents (those ages 16 and over), **a majority of are in the 25-44 category, which includes 17,246 workers.** The 45-54 age group is the second-largest, with 4,605 workers, followed by third is 55-64, with 3,601 workers.



Source: American Community Survey 2010

Age	Employed
16 to 19 years	602
20 to 24 years	2,158
25 to 44 years	17,246
45 to 54 years	4,605
55 to 64 years	3,601
65 to 74 years	735
75 years and over	81

PEOPLE

Disabilities

Approximately 2% of children under 5 years of age have a disability. The rates are similar between children 5-17 years old and adults 18-64 years old, at 5% and 4%, respectively. However, **disabilities are reported by 41% of adults 65 and over.** Women are half again as likely as men to be disabled, with rates at 9% and 6%, respectively.

Age	Percent with Disability
Under 5 years	2%
5 and 17 years	5%
18 and 64 years	4%
65 years and over	41%

Sex	Percent with Disability
Male	6%
Female	9%

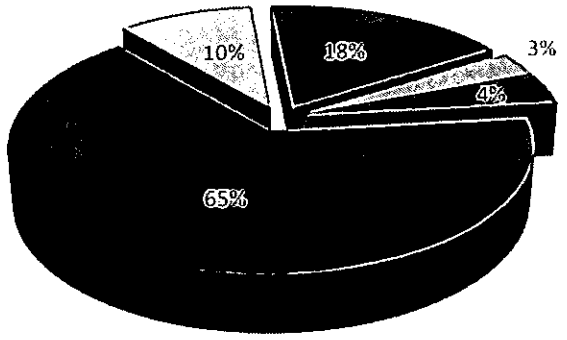
ECONOMIC

Occupation Distribution

The occupation distribution in Redmond is dominated by management, business, science, and arts fields, with nearly two-thirds of the civilian employed population.

The remaining 35% are distributed across service occupations; sales and office occupations; natural resources, construction, and maintenance occupations; and production, transportation, and material moving occupations.

Occupation Distribution



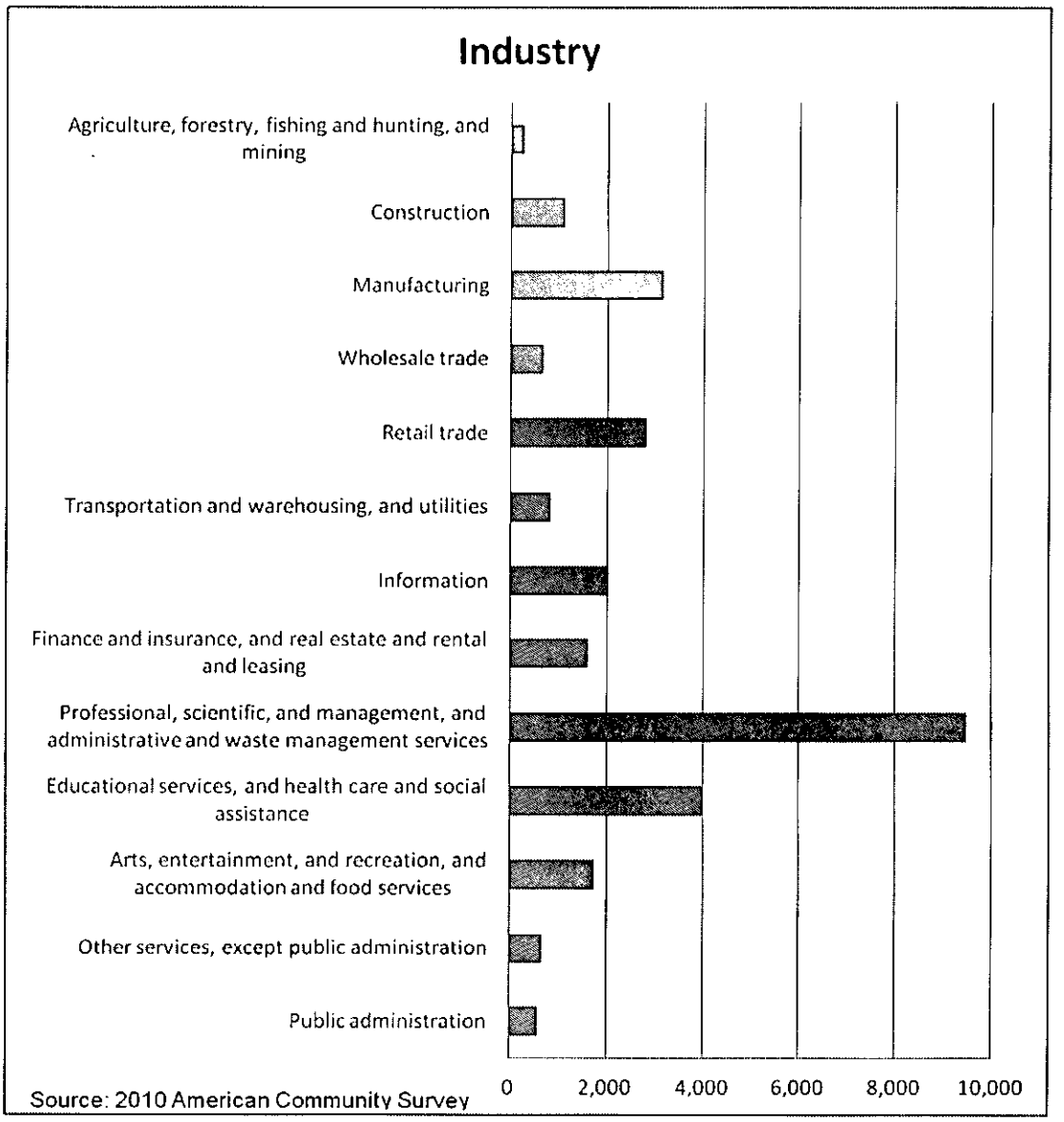
Source: 2010 American Community Survey

Occupation	People (employed population over 16)	Percentage of Population
Management, business, science, and arts occupations	19,000	65%
Service occupations	2,820	10%
Sales and office occupations	5,090	18%
Natural resources, construction, and maintenance occupations	930	3%
Production, transportation, and material moving occupations	1,170	4%
Total	29,020	100%

ECONOMIC

Industry

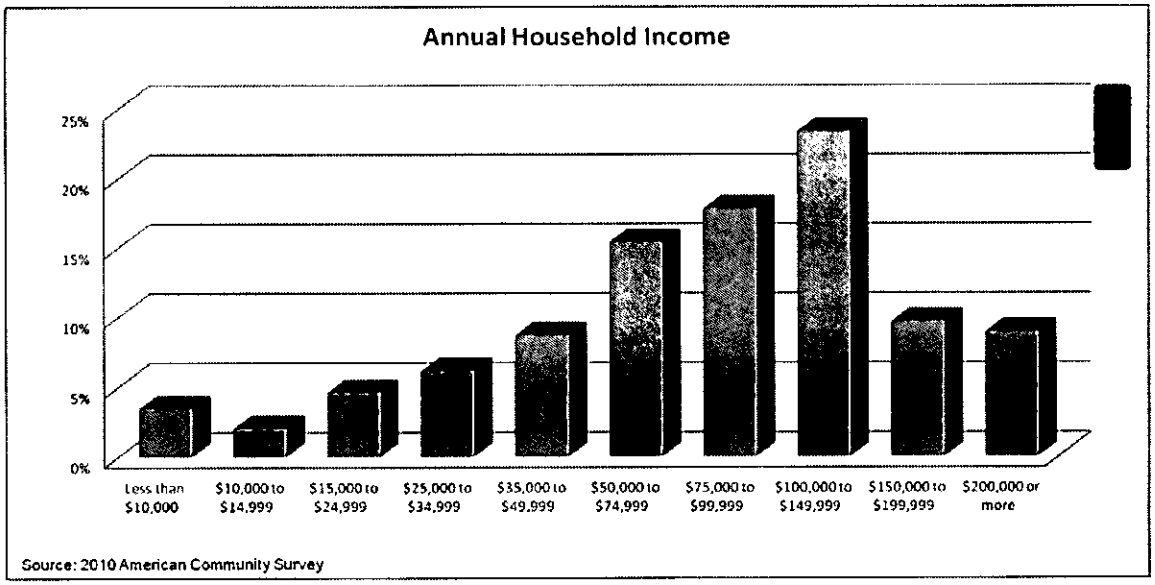
Of the 29,020 employed people ages 16 and over in Redmond, 9,490 workers, who account for **nearly one-third of the workforce, have occupations within the professional, scientific, management, administrative and waste management services**. The next largest industry is educational services, health care, and social assistance, with over 4,000 workers.



ECONOMIC

Annual Household Income

The median **annual household income in Redmond is $92,164,** while the mean is $104,610.



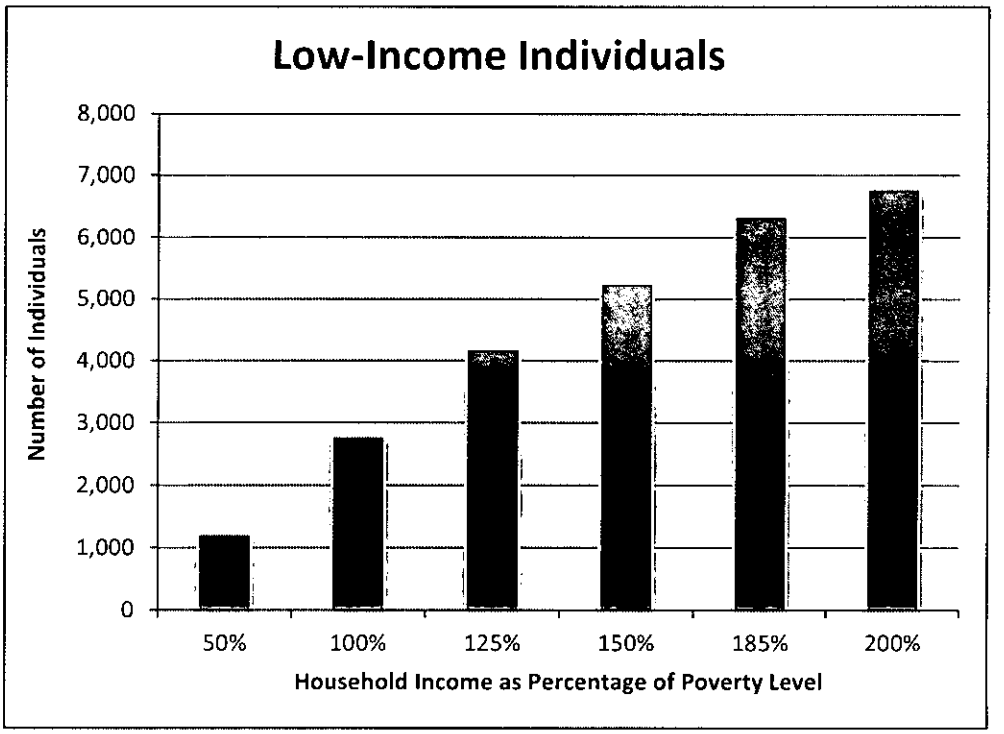
Household Income	Percent
Less than $10,000	3%
$10,000 to $14,999	2%
$15,000 to $24,999	5%
$25,000 to $34,999	6%
$35,000 to $49,999	8%
$50,000 to $74,999	16%
$75,000 to $99,999	15%
$100,000 to $149,999	24%
$150,000 to $199,999	11%
$200,000 or more	10%
Median income	*$92,160*
Mean income	*$104,610*

ECONOMIC

Poverty Level

Five percent of Redmond's population are living below the poverty level. The poverty threshold for a four-person household with two related children under 18 is approximately $22,000/year, whereas the city's median annual household income is $92,160.

About **13% of the total population is low-income,** i.e. lives in a household that earns under 200% of the poverty level.

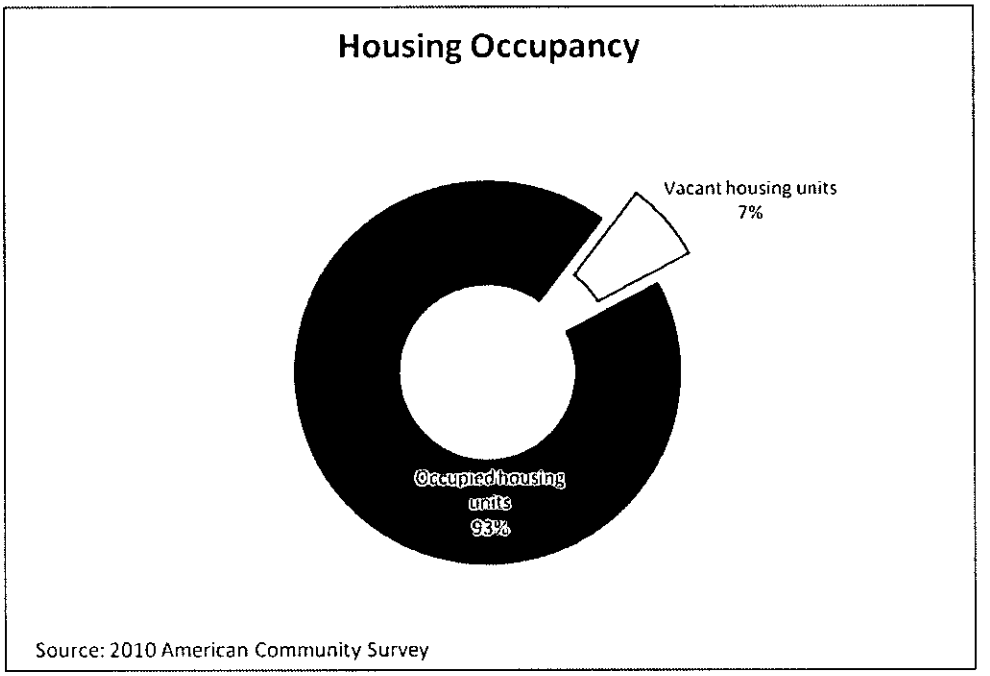


Household Income as Percentage of Poverty Level	Number of Individuals	Percentage of Total Population
Under 50%	1,230	2%
Under 100%	2,800	5%
Under 125%	4,200	8%
Under 150%	5,260	10%
Under 185%	6,360	12%
Under 200%	6,790	13%
Total Population	*54,144*	*100%*

HOUSING

Housing Occupancy

In Redmond, about **93% of the housing units are occupied.**



The mean number of bedrooms in a housing unit is 2.32. On average, owner-occupied units tend to have more bedrooms than renter-occupied ones.

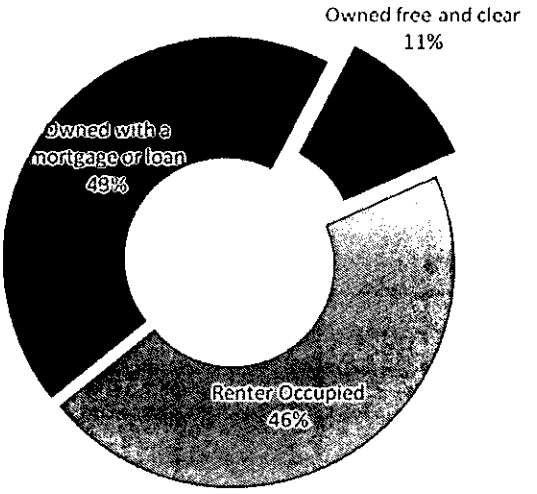
Tenure	Average Number of Bedrooms
Owned-occupied	2.49
Renter-occupied	2.13
Total	*2.32*

HOUSING

Housing Tenure

Of the 22,550 occupied homes, around **46% are rented**, about **43% are owned with a mortgage or loan**, and **11% are owned free and clear.**

Housing Tenure



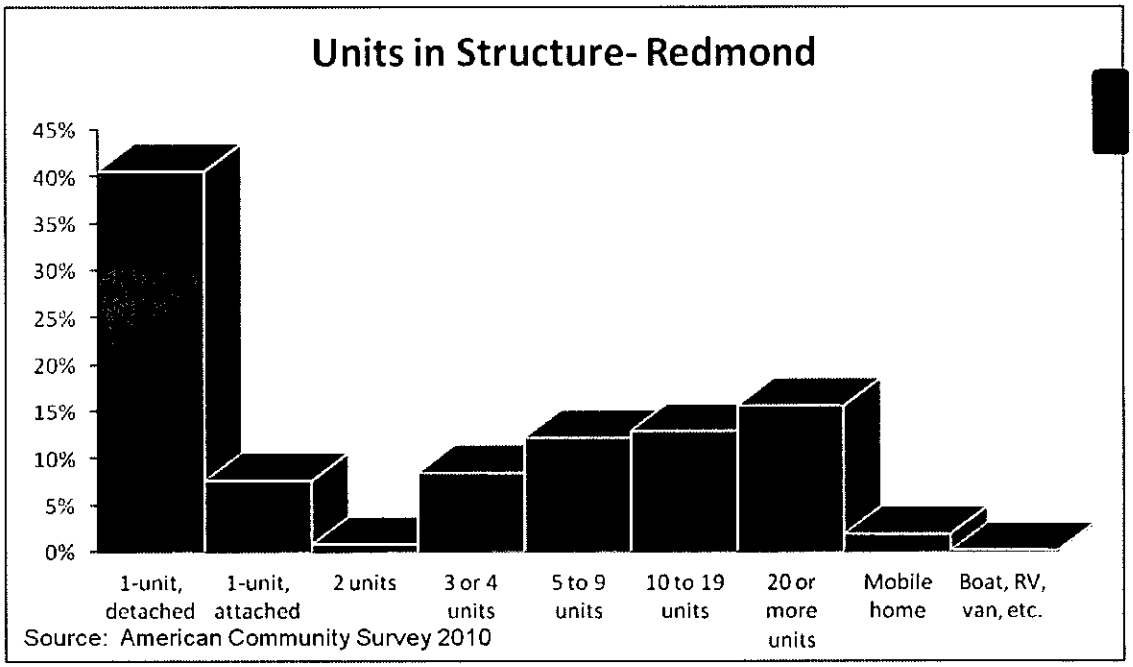
Source: 2010 Census Summary File

Housing tenure	Percent
Owner with a mortgage/ loan	43%
Owned free and clear	11%
Renter occupied	46%
Occupied housing units	*100%*

HOUSING

Housing Type

Redmond's housing units are **mostly 1-unit detached homes, and higher density housing**. Although 1-unit detached structures are the single most common type of residential structure, at nearly 40%, nearly one-half of all structures contain at least two units. Finally, two percent of all housing units are mobile homes, boats, RVs, vans, etc.

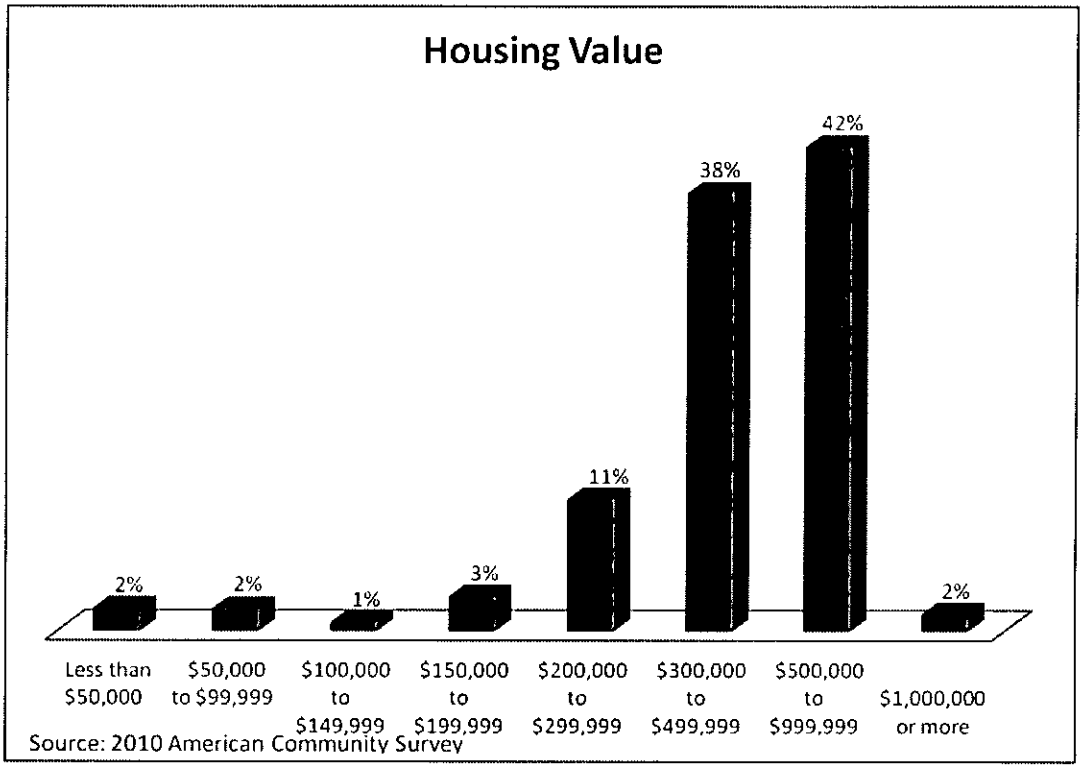


Housing type	Percent
1-unit, detached	41%
1-unit, attached	8%
2 units	1%
3 or 4 units	8%
5 to 9 units	12%
10 to 19 units	13%
20 or more units	16%
Mobile home	2%
Boat, RV, van, etc.	<1%
Total	*100%*

HOUSING

Housing Values

The median value of a home in Redmond is $469,500, but 44% of all homes are worth $500,000 or more.



Value	Estimate
Less than $50,000	2%
$50,000 to $99,999	2%
$100,000 to $149,999	1%
$150,000 to $199,999	3%
$200,000 to $299,999	11%
$300,000 to $499,999	38%
$500,000 to $999,999	42%
$1,000,000 or more	2%
Median	*$469,500*

City of Redmond Population and Employment

	Dwellings	Population	Employment
1980	8,721	23,318	12,035
1990	14,972	35,800	35,708
1993	17,392	38,987	39,026
1995	18,287	40,030	47,657
1998	18,509	43,310	59,631
2000	20,248	45,256	72,219
2001	20,368	45,490	78,853
2002	20,660	46,040	77,365
2003	21,274	46,480	78,286
2004	21,810	46,900	79,459
2005	22,204	47,600	82,073
2006	22,616	49,890	81,814
2007	22,869	50,680	85,775
2008	23,144	51,320	89,599
2009	23,323	51,890	90,704
2010	24,227	54 144	76,876
2011	24,602	55,150	78,893
2022	*33,500*	*72,000*	*118,000*
2012	*24,770*	*55,360*	*77,615*
2013	*24,872*	*55,840*	
2030	*36,500*	*78,000*	*119,000*

Notes:

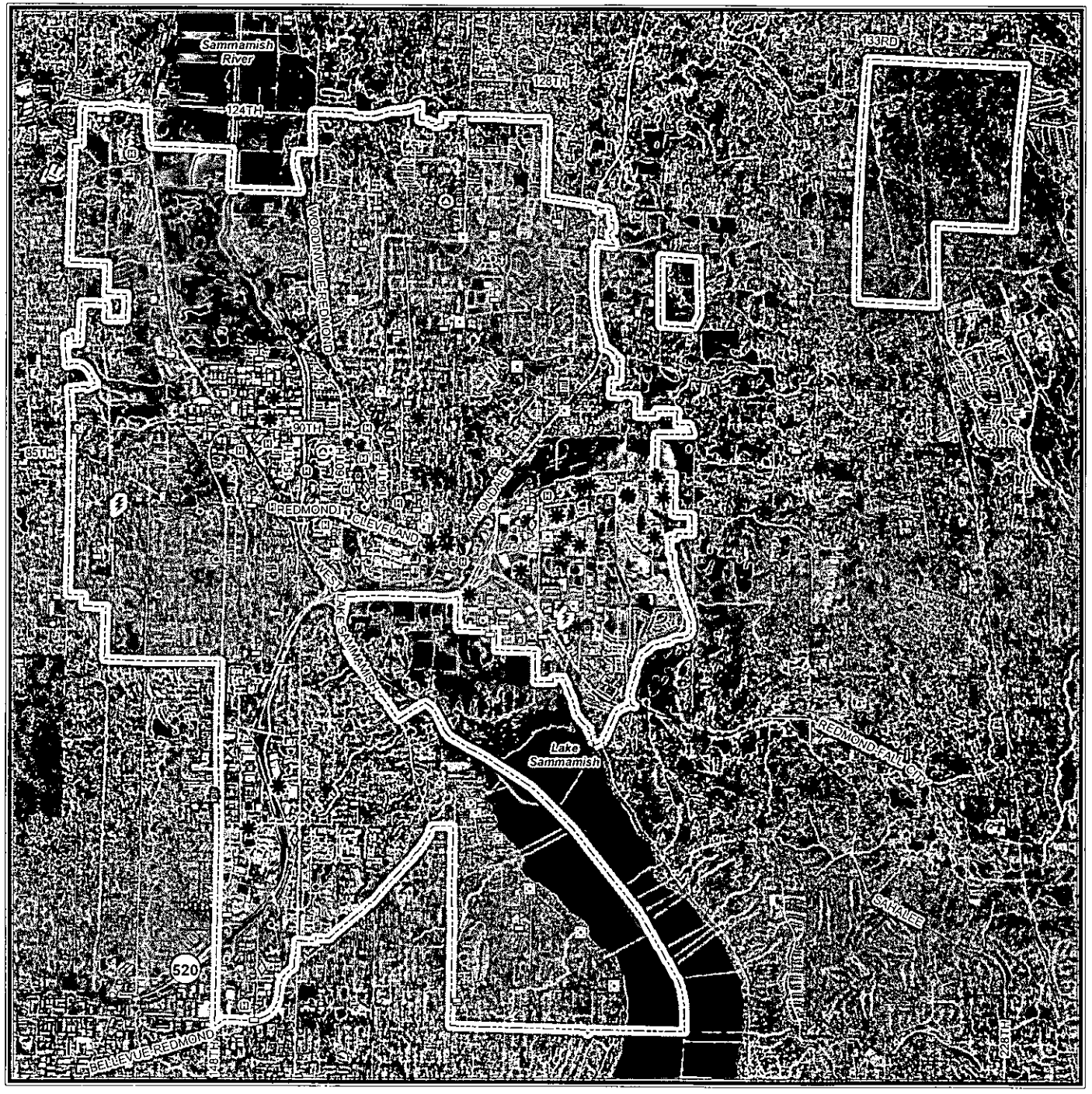
Population from US Census for each decade

Population from WA State Office of Financial Management for intervening years, except 1993 from City of Redmond

Employment from WA State Employment Security Department, allocated by PSRC to jurisdicational boundaries, except 1980 and 1993 from City of Redmond

Employment estimates for 1995, 2000, 2001, and 2002 reflect most recent PSRC revisions

CITY OF REDMOND HAZARD MAPPING



CITY OF REDMOND

Critical Facilities and Infrastructure

Critical Facilities

- Government Function
- HazMat
- Medical Care
- Protective Function
- Schools
- Other Facility

Critical Infrastructure

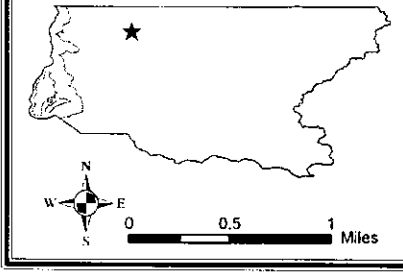
- Bridges
- Communications
- Dams
- Water Supply
- Power
- Transportation
- Wastewater

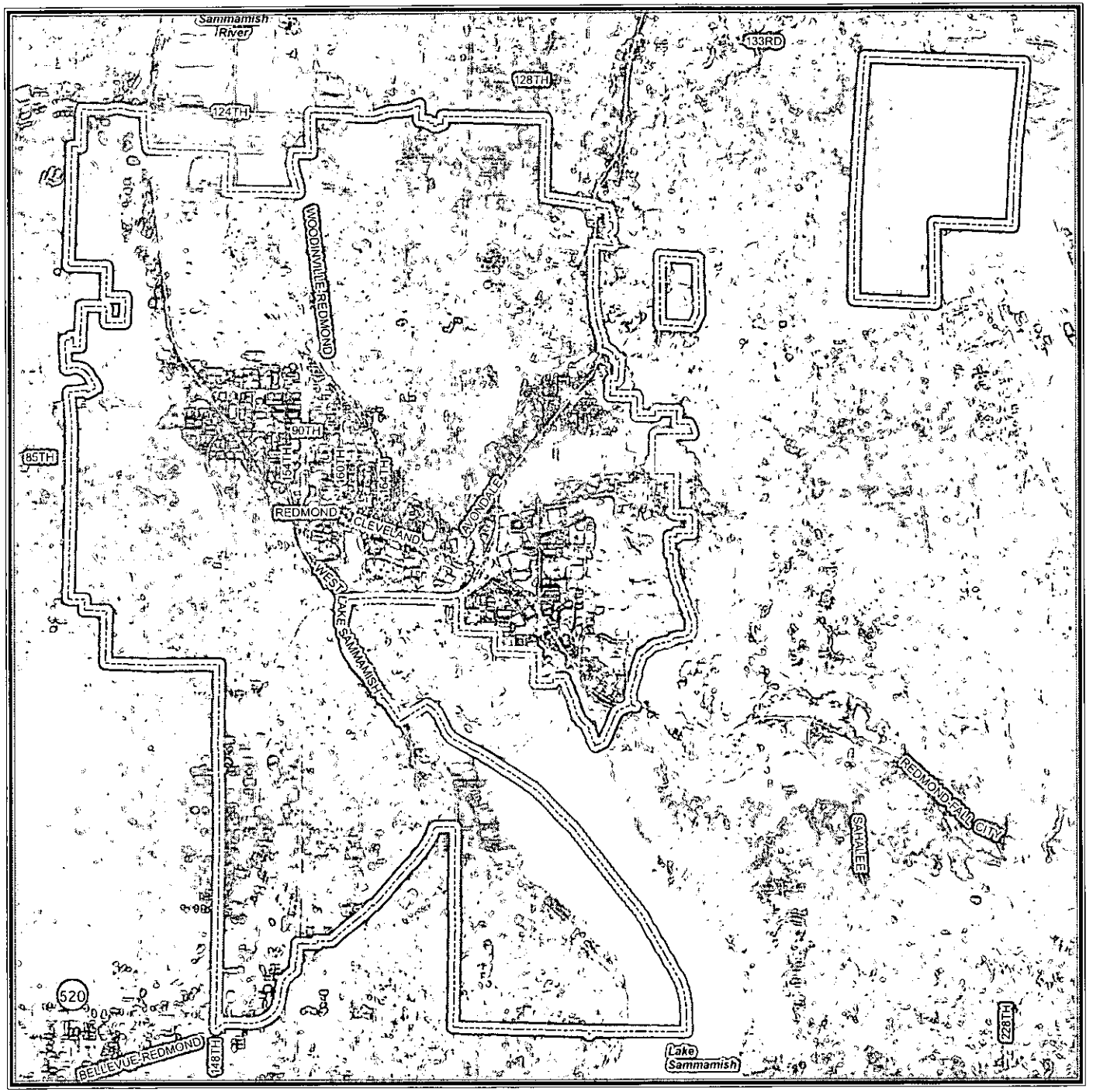
Locations are approximate.

Base Map Data Sources:
King County, U.S. Geological Survey

King County

TETRA TECH





CITY OF REDMOND

Liquefaction Susceptibility

Susceptible	Not Susceptible
High	Bedrock
Moderate to High	Peat
Moderate	Water
Low to Moderate	Ice
Low	
Very Low to Low	
Very Low	

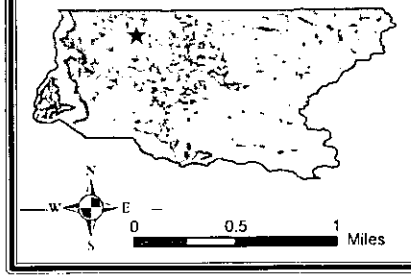
Liquefaction data provided by the Washington State Department of Natural Resources, Division of Geology and Earth Resources. Data is based solely on surficial geology published at a scale of 1:100,000.

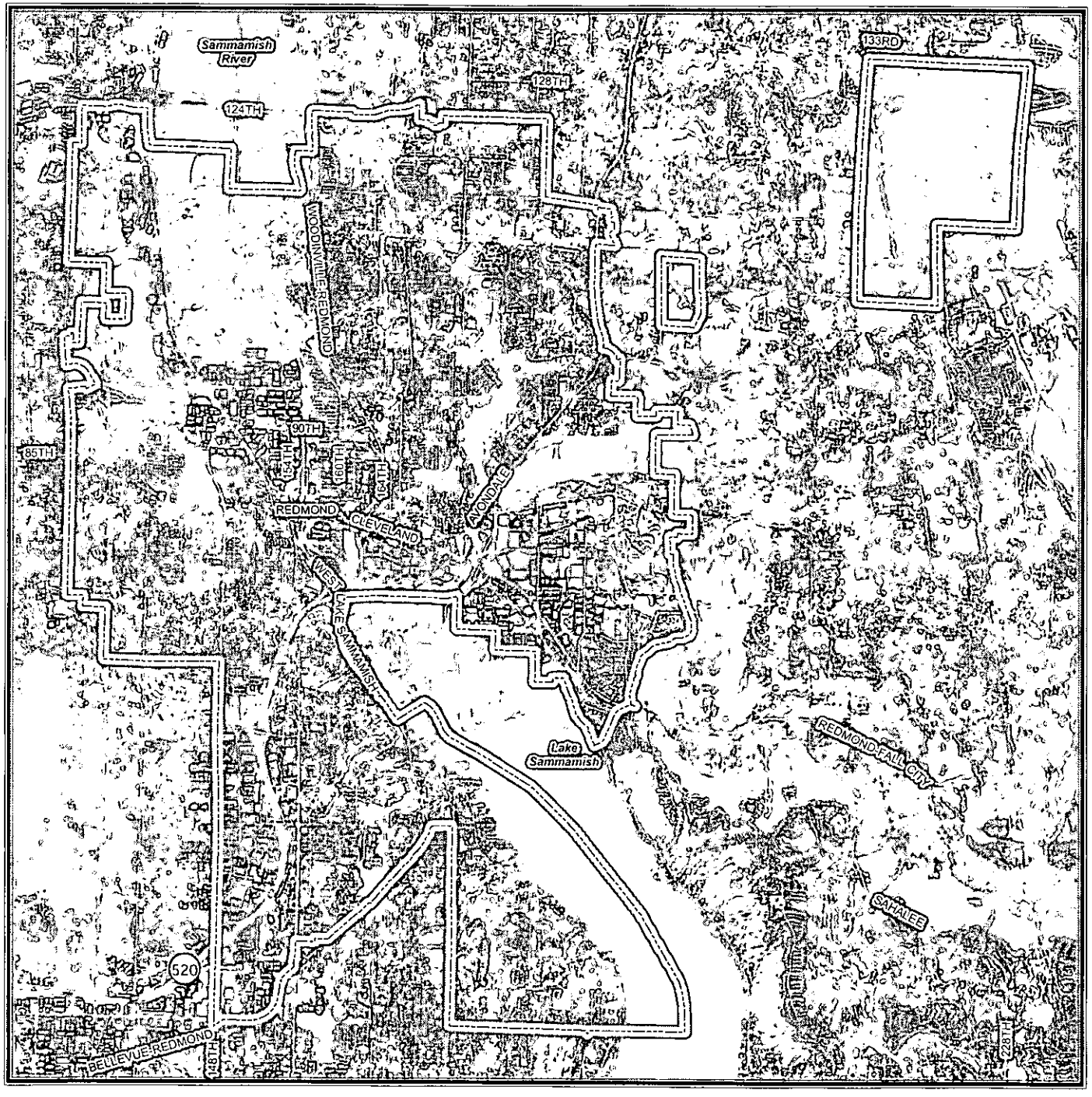
A liquefaction susceptibility map provides an estimate of the likelihood that soil will liquefy as a result of earthquake shaking. This type of map depicts the relative susceptibility in a range that varies from very low to high. Areas underlain by bedrock or peat are mapped separately as these earth materials are not liquefiable, although peat deposits may be subject to permanent ground deformation caused by earthquake shaking.

Base Map Data Sources:
King County, U.S. Geological Survey

King County

TETRA TECH





CITY OF REDMOND

National Earthquake Hazard Reduction Program (NEHRP) Soil Classification

- ☐ Site Class B - Rock
- Site Class C - Very Dense Soil, Soft Rock
- Site Class D - Stiff Soil
- Site Class E - Soft Soil

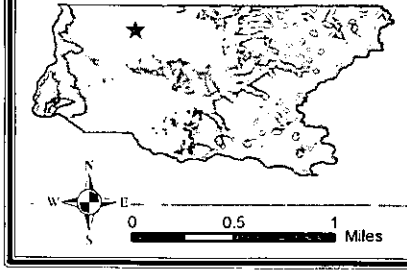
Soil classification data provided by Washington State Department of Natural Resources, Geology and Earth Resources Division.

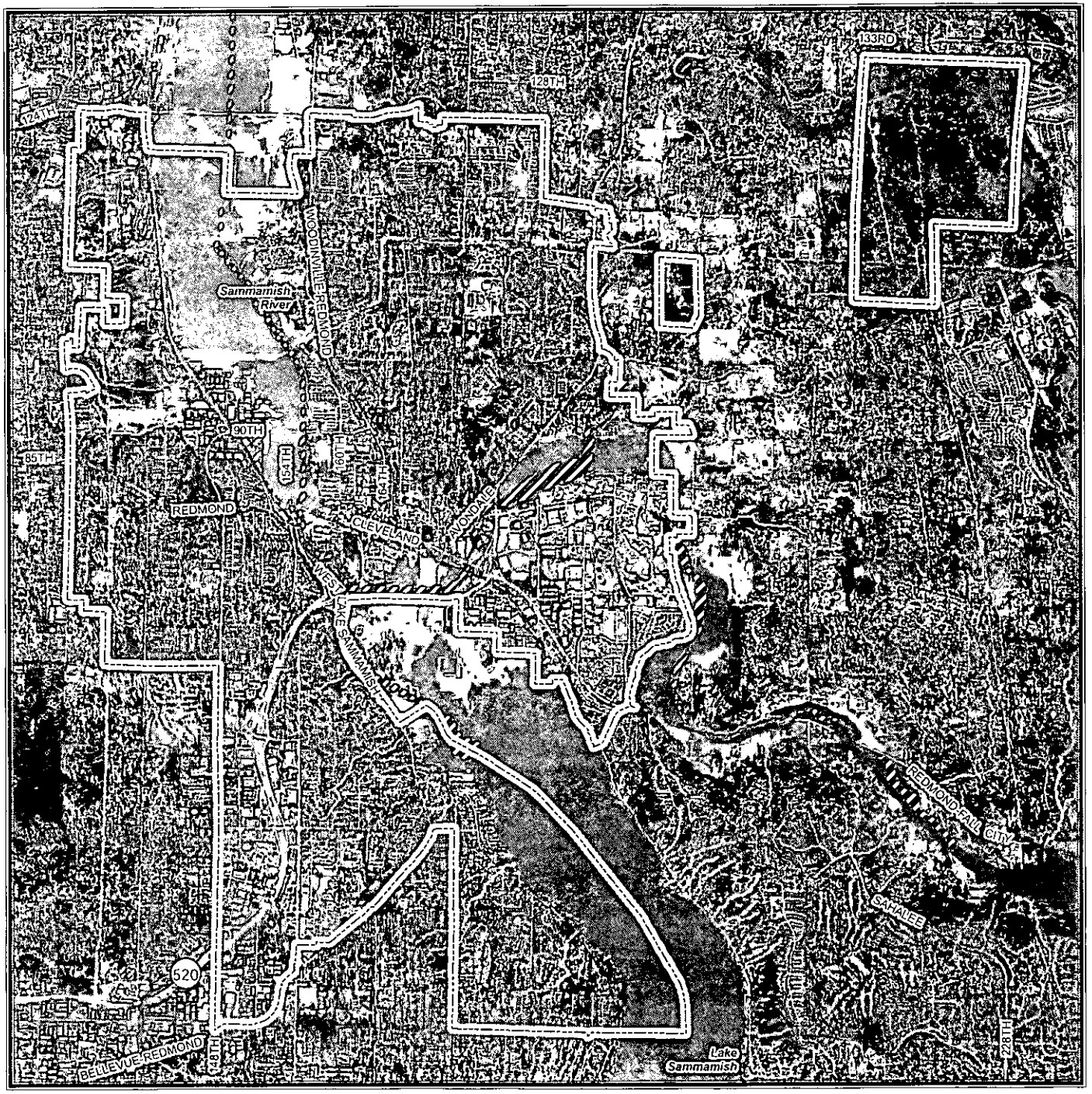
The dataset identifies site classes for approximately 33,000 polygons derived from the geologic map of Washington. The methodology chosen for developing the site class map required the construction of a database of shear wave velocity measurements. This database was created by compiling shear wave velocity data from published and unpublished sources, and through the collection of a large number of shear wave velocity measurements from seismic refraction surveys conducted for this project. All of these sources of data were then analyzed using the chosen methodologies to produce the statewide site class maps.

Base Map Data Sources:
King County, U.S. Geological Survey

King County

TETRA TECH





CITY OF REDMOND

FEMA DFIRM
Flood Hazard Areas

- ☒ Floodway
- ☐ 1 Percent Annual Flood Hazard
- ☐ 0.2 Percent Annual Flood Hazard

Flood hazard areas as depicted on draft FEMA Digital Flood Insurance Rate Maps (DFIRM).

The 1 percent annual flood hazard is commonly referred to as the 100 year floodplain. The 0.2 percent annual flood hazard is commonly referred to as the 500 year floodplain.

Base Map Data Sources:
King County, U.S. Geological Survey

King County

TETRA TECH